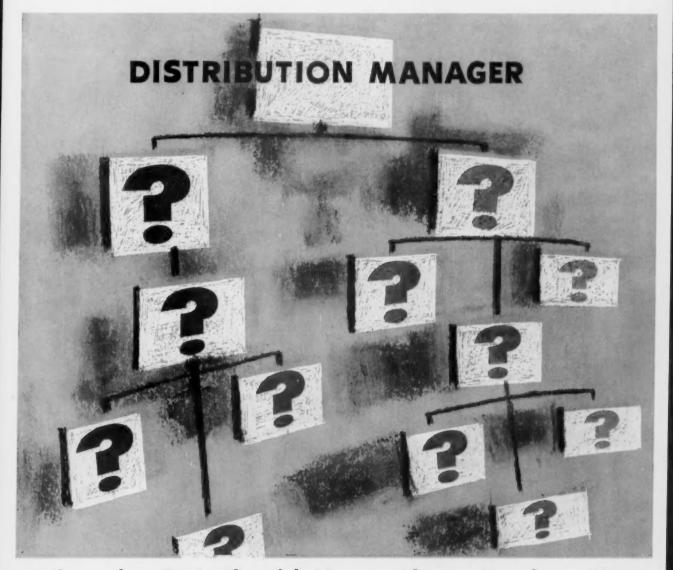
DISTRIBUTION AGE



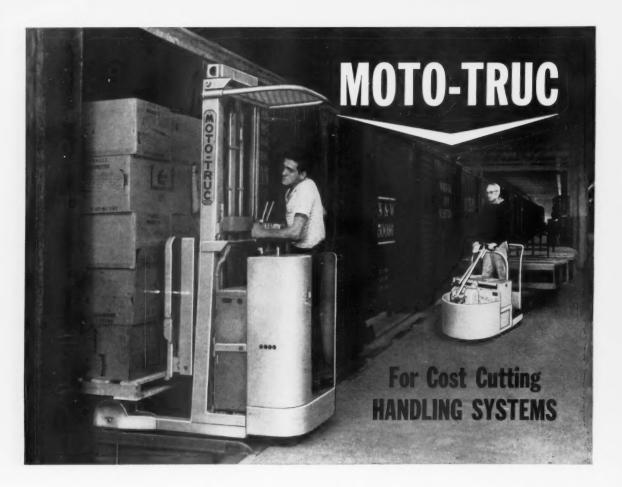
A CHILTON (PUBLICATION

MARCH 1960



What the DM Should Know About Product Flow

See Page 39



 Whether your handling system calls for a single truck or a whole fleet, you can count on MOTO-TRUC'S to give you maximum production at minimum cost!

Here's why: First MOTO-TRUC's cost less initially than comparable models built by competitive manufacturers. And, their simplicity plus their easy accessibility assures lowest maintenance cost.

Every MOTO-TRUC model is compactly designed to require minimum aisle space. Yet, they are tough and dependable — built to do more work, day in and day out.

There are more than 200 standard MOTO-TRUC walkie and small rider models for horizontal transport — for hauling trailers and for high stacking operations — There is sure to be one to fit your handling needs.

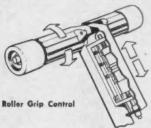


Get Complete Information. Write for these useful Moto-Truc Catalogs — 56W on Walkies; 56R on Ride-A-Man Models.

The MOTO-TRUC Co.

1956 East 59th Street . Cleveland 3, Ohio

ROLLER GRIP CONTROL-another MOTO-TRUC design exclusive



This patented control center, used on all MOTO-TRUC walkie models, and many small rider models, as well, is the ultimate in safety and convenience.

Its simplicity assures outstanding dependability and long service life. The operator simply twists the control handle to vary speed and control direction. Push buttons in the ends of the handle control lift and lowering.

This control is just one more example of MOTO-TRUC design quality that means more efficient industrial truck handling.

The MOTO-TRUC Company

Cleveland, Ohio



New Pan Am Jets cut world-wide delivery time 40%!

Pan Am opens up with the most complete Jet cargo schedules of any line today. With more new Jets, Pan Am brings almost every major city in the world within 12 hours of the U.S.A.

For instance:

Caracas from New York now 4½ hrs.
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Honolulu from San Francisco ... now 5 hrs.
London from Los Angeles now 11¼ hrs.

Pan Am Jet Clipper* Cargo gives you these exclusives, too: MORE SPACE (10,000 pounds capacity with every new Jet plane!) - MORE JETS - MORE FLIGHTS - MORE SHIPPING

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WORLD'S MOST EXPERIENCED AIRLINE

*Trade Mark, Reg. U.S. Pat. Off.



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Daily scheduled service on your small shipments to more than 30,000 markets throughout the nation . . . (and overseas, too!)

PHONE FOR SCHEDULES, RATES, PICK-UP

FREE PICK-UP ON ANY SIZE SHIPMENT

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Great American Transport SUNDER SPECTOR MANAGEMENTS

SPECTOR FREIGHT SYSTEM, INC.

General Offices: 3100 South Wolcott Avenue, Chicago 8, Illinois

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Yakkety Yak

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ESTABLISHED 1901

MARCH 1960

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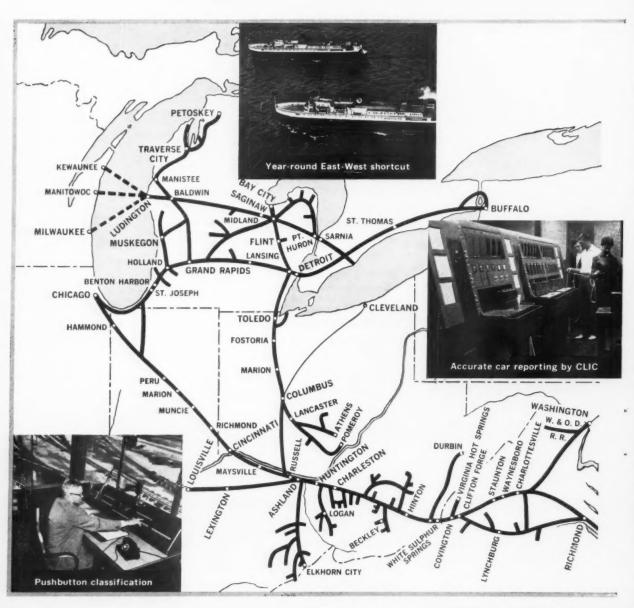
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New Products

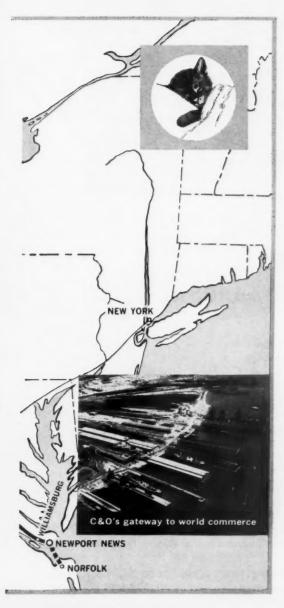
Advertisers' Literature

Warehouse Spotlight

Outstand:



ability



Everywhere on Chessie's 5,100-mile transportation plant

From the Atlantic to the Great Lakes and Canada — Chessie's transportation network serves a region rich in natural resources and thriving with industrial diversification. Along every mile C&O proves its outstanding ability — outstandability — to anticipate the needs of this vigorous, growing area.

For example: Newport News, C&O's own world port with every facility for export-import commerce. C&O Trainferries across Lake Michigan to shorten and expedite Northwest and East traffic. Dependable overnight Piggyback operations. CLIC, Chessie's quick, accurate car reporting. Centralized Traffic Control, pushbutton classification, hot box detectors and other electronic innovations to speed and safeguard your shipments. A fully dieselized transportation plant with nearly 100,000 modern freight cars, including fleets of damage-free cars, insulated compartmentizers and other special equipment.

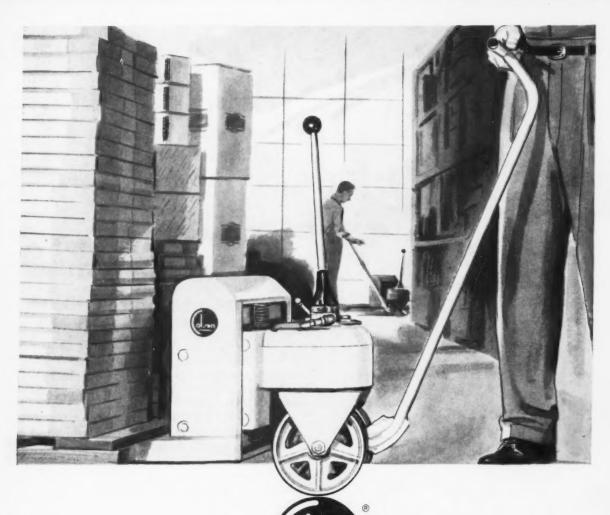
Your service-minded C&O representative is anxious to introduce you to Chessie's outstanding transportation facilities. He'll be glad to tell you about C&O's OUTSTANDABILITY.

Chessie has just published a new railroad map of the U.S. If you'd like a copy write to James E. Doyle, Vice President —

Chesapeake and Ohio Railway

TERMINAL TOWER, CLEVELAND 1, OHIO

Outstandability in Transportation



from the ground UP on builds it better...

Colson starts with the first essential...mobility, and begins building quality there with Colson wheels and casters. Seventy-five years of experience go into putting together the *total* unit. Literally from the ground up, Colson builds it better, supplying the complete product. From Casters to completion, each part of Colson's pallet trucks is made with the careful precision that has made Colson famous for long-lasting quality. Quality costs less. Buy once, buy the best... Colson.



75 years of experience in supplying field-tested equipment and casters to industry and institutions. Millions of satisfied customers know and respect the name COLSON. synonym for quality.

HYDRAULIC LEVERLIFT PALLET TRUCKS

Colson's new 2500 and 4000-lb. capacity single and double face pallet trucks embody every feature industry demands. Exclusive new Roll-O-Cam pallet entry device eliminates need for special chamfered pallets, and ends sliding and skidding. Spring counter-balanced handle turns to 240 degrees for maximum maneuverability even in tight spaces. Simple hydraulic pump lifts loads easily. Lightweight and load designed for handling ease and floor protection. Send for free illustrated catalog showing the quality features of Colson pallet and open and closed deck skid trucks.

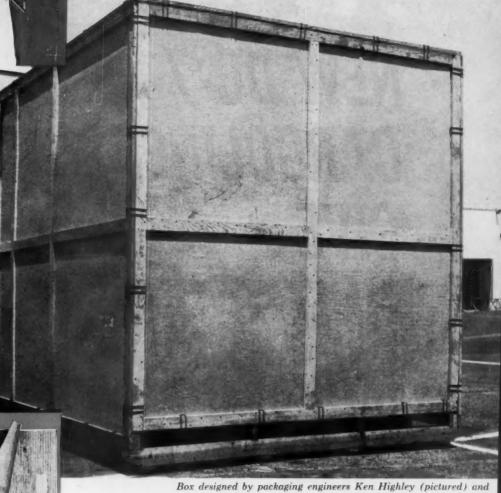
THE COLSON CORPORATION

Plants in: Jonesboro, Ark.; Sommerville, Mass. and Elyria, Ohio Circle No. 2 on Card, Facing Page 51, for more information

7 S. Dearborn Street CHICAGO, ILLINOIS

DISTRIBUTION AGE

Weyerhaeuser PLY-VENEER® saves North American 1,100 lbs. per box in packaging Little Joe space vehicle booster



Mas Hatae, Missile Division of North American Aviation, Inc.

The box is made up of modular Ply-Veneer panels assembled around a cradle that supports the booster. No structural members Ply-Veneer consists of a veneer core overlaid with kraft or white facings. Core distenare necessary in the box construction. sions increase dimensional Ply-Veneer panels are held together and fastened to the base stability. Panels are available in thicknesses of 1/8" to 1/4",

supports by spring steel KLIMP* fasteners. This construction widths of 4' and 8', lengths up allows the box to be easily disassembled, opened on any side for to 16' and longer. inspection, and reused again and again. Use of Ply-Veneer re-For more information write us at Tacoma, Washington. duced box weight by 1100 lbs. and saved on panel material costs.

*KLIMP (asteners are marketed by NAVAN Products Inc. 900 North Sepulveda, El Segundo, California



Weyerhaeuser Company Silvatek Division

The complete booster assembly for NASA's Little Joe space vehicle is packed in a 20 x 8 x 8 foot box designed for air shipment.

Manufacturers of: Versabord and Versaflake particle boards; Weytex, Weytone Hardboards



NEW DC-7 CARGOLINERS GIVE UNITED AIR FREIGHT MORE SPEED, MORE CAPACITY

United Air Lines is rapidly adding big, fast (365 mph) DC-7 Cargoliners to its all-freight fleet, to help you speed deliveries . . . serve customers more efficiently . . . reduce distribution costs. And Reserved Air Freight (RAF) is available on every flight to give you added assurance of on-time delivery. For the ultimate in shipping speed, you can choose reliable

RAF/Jet Freight on United's DC-8 Jets. And, of course, every shipment via United Air Freight receives extra care in handling and expediting. So wherever, whenever, whatever you ship . . . ship best way—United Air Freight. Call any United Sales Office or write to United Air Lines, Cargo Sales Division, 36 S. Wabash Avenue, Chicago 3, Illinois.



FLY UNITED AND SHIP UNITED FOR EXTRA CARE SERVICE

CHUTING THE



Frank O'Neill Named Outstanding TM of 1960 NAVL Opens Program Honoring Industry Leaders

Frank L. O'Neill, general traffic manager, Minnesota Mining & Manufacturing Co., has been named "Outstanding Traffic Manager of the Year—1960."

Presentation of the award was made by James D. Edgett, president of North American Van Lines, Inc., during a recent banquet at the Waldorf-Astoria Hotel in New York. Ten

Astoria Hotel in New York. Ten other men were presented with





"Certificates of Notable Achievement." Award winners were selected by an independent committee of industry experts.

North American Van Lines established the award last year in an effort to focus increased attention on the profession of traffic management as an important arm of top management. The award is an original sculpture symbolizing transportation.

O'Neill has been active in advancing transportation through organizations on both the local and national level.

As past president of the St Paul Traffic Club, he was responsible for development of an educational program in traffic. On the national level, he has served as president of the Associated Traffic Clubs of America and has authored a number of traffic articles.

The ten certificate winners are: Russell S. Callahan, of Lestoil, Inc.; John J. Chapuran, Tidy House Products Co.; Frank T. Day, The Warner & Swasey Co.; Frederick A. Doebber, Citizens Gas & Coke Utility of Indianapolis; Lee Edward Galaspie, Reynolds Metals Co.; Mendel A. Keith, Columbus Coated Fabrics Corp.; Gail W. Kelly, Sears Roebuck & Co.; Harold T. Reed, Line Material Industries; Coy G. Rickenbaugh, Radio Corp. of America; and Leonard C. Schaffel, Food Fair Stores.

Van Line Gives \$10,000



Indiana Technical College will create a new professorial chair due to a recent \$10,000 grant received from North American Van Lines, Inc. Van Lines President James D. Edgett is shown presenting the grant to Archie T. Keene (left) president of Indiana Technical College. The college offers accelerated courses in engineering

ATA Safety Council Meeting To Discuss Medical Advice

How medical advice can help cut accidents will be a feature of the Annual Spring Meeting of the ATA Council of Safety Supervisors.

Medical experts at the May 10-12 meeting in Los Angeles will discuss the effects of age and medication on drivers. Council members will be told of the contributions which can be made by the company doctor.

A Freight Terminal Management Course was held recently at Purdue University. This course dealt with the many aspects of the terminal manager's job.

Dorr New President of NWPMA; Record Attendance at Meeting

Calvin A. Dorr, of Portland, Ore., was elected president of the National Wooden Pallet Manufacturers Association at the group's recent 13th Semi-Annual Meeting.

Other officers are: Arthur S. Binley, Jr., vice president; David B. Phillips, vice president; William H. Sardo, Jr., executive vice president and secretary; and Frank H. Woodward, treasurer.

The meeting, held at Hollywood, Fla., attracted a record attendance of 124 persons. Gains of the industry during 1959 were outlined by Sardo. During the past year, more new installations purchased wooden pallets than ever before. Sales were estimated at \$149,000,000, a 36 per cent increase over 1958.

(Please Turn Page)

Chuting the News . . .

(Continued from Preceding Page)

TTMA Convention Opposes Increase in U.S. Fuel Tax; Alexander Elected to Second Term As President

The Truck-Trailer Manufacturers Association, in its 19th Annual Convention, went on record in opposition to an increase in the federal motor fuel tax.

The resolution said that "no sound formulae for allocation of costs to the various beneficiaries (of the current giant highway program) have been developed although a special study

to determine the basis for allocation is in progress."

The Convention, held at Coronado, Calif., with about 315 registered, also set a policy on highway use taxes and reciprocity among the states.

Containerization also was discussed. A committee of the American Standards Association has submitted to member associations proposals for a group of standard container sizes. The Convention directed the TTMA staff to poll the membership and cast a vote with the ASA committee based on the results of the poll.

Re-elected for a second term as president was C. W. Alexander, of Lufkin Foundry & Machine Co., Inc., Lufkin, Texas. Nathan Carter, Jr., of Arrow Equipment Co., Memphis, Tenn., is the newly elected member of the Board.

Other officers and directors were re-elected.

A. L. Rich, of Fruehauf Trailer Co., chairman of the Traffic Committee, reported on a potential saving in shipping costs. He said that members may save as much as 30 per cent in freight charges on ltl shipments of castings and stampings used as underconstruction parts. As much as 17 per cent can be saved on truckloads of the same commodities. The saving results from an action of the National Classification Board setting a lower rate for parts such as spring hangers, brackets, gussets, U-bolt seats, spring chairs, etc.

The Eighth Industrial Packaging short course will be given at Purdue University, Lafayette, Ind., on March 21 to April 1.

-DA-

American Management Assn. will hold another Distribution Management Conference on April 11-13 at the Fairmont Hotel, San Francisco.

ATA Safety Director Sees Danger In New ICC Accident Reports

Goley D. Sontheimer, director of safety, the American Trucking Associations, Inc., sees trouble ahead for truckers if the ICC's new accident reporting rules go into effect.

Even such a common occurrence as a freight handler bruising his shin while loading a crate onto a truck will have to be included in a quarterly report, Sontheimer said.

"In fact, according to the ICC's proposal, a truck has only to be in the vicinity of an accident to be considered 'involved' in the accident. Thus, if a truck is parked while making a delivery and two cars collide in the same block, the company which owns the truck has to label the incident as an accident and include it in its quarterly accident report to the ICC," Sontheimer said.

The word "accident" is defined as "any occurrence in interstate, foreign, or intrastate commerce which in any manner involves a motor vehicle, whether loaded or empty, and from which there results an injury to or death of any person, or property damage of any kind."

The ICC has given truck operators until April 1 to file written opinions on the proposals.



Government-Industry Planning Holds Key to Transport's Future

Government - industry planning may be the best way to solve the nation's "transportation crisis," according to Maj. Gen. John P. Doyle.

Gen. Doyle, who is director of the Senate Transport Study, Interstate and Foreign Commerce Committee, spoke before the Transportation and Communication Committee of the U.S. Chamber of Commerce. He predicted that there will be minimum government regulation if there develops "the same quality of industry-imposed control and stability that we have achieved in banking and stock exchange management."

Stohlman, Port Leader

George C. Stohlman was appointed to the New Orleans Dock Board recently. He is executive

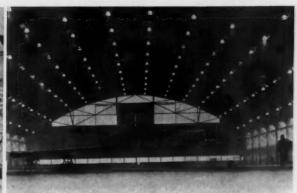
general agent of the Missouri Pacific Railroad Co. and a director of the New Orleans Board of Trade. Com-



menting on his appointment, Stohlman said that "the railroad factor is a vital link in the operations of the port. I am particularly gratified that it has been recognized as such."



NEW CONTROL TOWER FOR NEWARK AIRPORT— Far Left: Tower is used by FAA in controlling air, ground aircraft movements. It is located near the center of the 2300-acre airport between two active runways. It was built by The Port of New York Authority and has two instrument landing control systems



AIRPORT FIRES QUENCHED WITH FOAM SYSTEM
—Above Left: Installation at Boeing Airplane Co., Seattle,
Wash., isolates spill fires during jet fueling by use of four
foam systems with ground-level foam deflectors. Right:
Other "Automatic" Sprinkler Co. foam system is in Canadian Pacific Air Lines' hangar

Magnuson Describes Progress Of Transportation Report to TAA

A lack of basic information about the transportation industry is delaying the Senate study of this vital phase of our national economy.

This was the view of Senator Warren Magnuson, chairman of the Senate Committee on Interstate and Foreign Commerce, speaking before a luncheon meeting of the Transportation Association of America.

Determining a sound national policy for the future of transportation, the senator said, has been made more difficult by the absence of planning in its growth to date. Tremendous growth has added to the regulatory problem.

He cited the need for ICC decisions based not on the effects upon the participants but on the effects on all concerned.

The TAA held its National Transportation Institute recently in New York. Its general theme was "A Great Future Needs Great Transportation."

LCNC Convention April 24-28

The Local Cartage National Conference will meet in New York, April 24-28 for its 17th Annual Convention. Each section of the LCNC will hold at least two sessions, all at the Hotel New Yorker. A special ladies' program is planned.

An orientation seminar on "How to Reduce the Costs of Order Picking, Packing and Warehousing" will be presented by the American Management Associations, Manufacturing Division, on March 7-9 and April 6-8, Hotel Astor, New York City.

Canadian Traffic League Re-elects Ringrose President

The Canadian Industrial Traffic League, holding its 44th Annual Convention recently in Toronto, reelected H. J. Ringrose president. Ringrose is the general traffic manager of Hiram Walker & Sons., Ltd., of Walkerville, Ont.

Other officers re-elected were: F. Ainsworth, of Husky Oil & Refining, Ltd., first vice president; L. T. Smith, Kraft Foods, Ltd., second vice president; A. A. Landry, General Mills, Inc., treasurer; and R. L. Jackson, Canadian Gypsum Co., and G. F. Walsh, Page-Hersey Tubes, Ltd., auditors.

NRMA in Boston, April 26-28

This year the National Retail Merchants Association's Traffic Group will meet in Boston, April 26 to 28. Twelve sessions are scheduled along with tours of traffic departments in Boston stores.

Franklin Named Chairman Of SPHE National Contest

P. E. Franklin, of North American Aviation, Missile Division, Downey, Calif., has been named chairman for the 1960 Packaging Competition of the Society of Packaging and Handling Engineers.

The competition will be executed through the Southern California Chapter. Winning packages, to be selected by a panel headed by J. L. Krager, of Radio Corp. of America, will be displayed at the Materials Handling and Packaging Show to be held May 11-13 in Los Angeles.

Entries will be accepted until May 8. Application forms can be obtained from the competition chairman, SPHE, PO Box 22082, Los Angeles 22, Calif.

--DA--

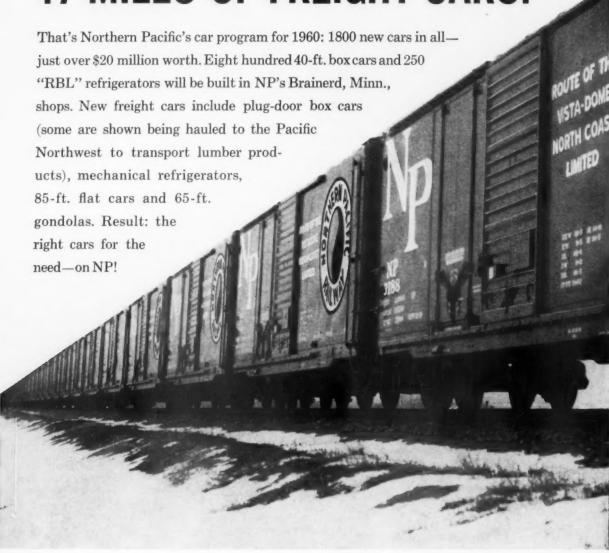
Arpaia Resigns from ICC To Return to Private Life

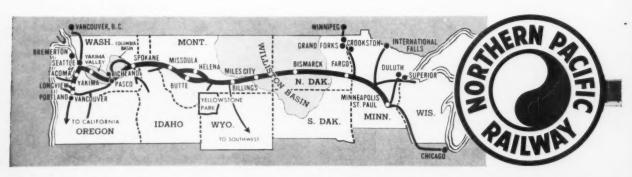
Anthony F. Arpaia has resigned from the Interstate Commerce Commission, effective March 15.

In his resignation, which was accepted by President Eisenhower on February 17, the commissioner stated that he intends to return to private life. Arpaia has been a member of the ICC since 1952.

(Please Turn to Page 26)

17 MILES OF FREIGHT CARS!









95 MILES OF CTC TRACK will be added to the NP CTC system in 1960. The new link will connect Livingston and Laurel, Montana. For NP shippers, Centralized Traffic Control means more efficient handling of goods—another sign of progressive railroading—on NP!



44 MILES OF WELDED RAIL

will replace standard rail on NP this year adding to the 234 miles already laid. And that's just part of the story. NP will re-lay many more miles of main line, branch and secondary track, and ballast additional miles of main and branch line, too. It's all part of a continuing maintenance and improvement program to keep NP service tops!



BILLINGS SAVES BILLING!

NP's transloading service at Billings, Montana, can cut costs by reducing delays and damage. And it also provides better distribution and inventory control. Original-car shipment is divided and transferred to separate cars for each stop-off point—at no extra charge.





NORTHERN PACIFIC—really terrific!

STARTING APRIL 1st

LOWEST AIR FREIGHT RATES IN HISTORY

FROM AND TO NEW YORK, BOSTON, MONTREAL

COMMODITY	CITY	RATE PER LB.	MINIMUM WGTS.
Automobiles & Agricultural Machinery & Parts	London Milan-Turin Geneva-Zurich Rome	.32 .30 .33 .30 .34 .31	100 2200 100 2200 100 2200
Adding and/or Computing Machines & Parts	London Milan-Turin Geneva-Zurich Rome	.32 .30 .33 .30 .34 .31	100 6600 100 6600 100 6600
Radio, TV and Comb. Radio TV & Radio Phono. Electrical Household Appliances & Parts.	London Milan-Turin Geneva-Zurich Frankfurt Rome Madrid }	.36	100
Scientific, Dental Precision & Surgical Instru- ments and Parts Optical Goods	London Milan-Turin Geneva-Zurich Frankfurt Rome	.37	100

These are only a few samples of the numerous new lower specific commodity rates available in Alitalia's international air cargo tariff. In addition to these reductions, general commodity rates have been lowered to offer you a 35% discount for minimum weights of 1100 pounds per shipment. You can reserve space on all Alitalia flights for your cargo shipments.



For flight schedules and air cargo memorandum tariff, contact your agent or your local ALITALIA office. Or write ALITALIA Airfreight, 666 Fifth Avenue, New York 19, N. Y.

Coming Events

Mar. 6-11-National Furniture Warehouseman's Assn., Annual Meeting, Hollywood Beach Hotel, Hollywood Beach, Fla.

Mar. 7-24 — Industrial Transportation & Traffic Management, 12th Institute, The American University, Washington, D. C. Mar. 16-19 — Mayflower Warehousemen's Assn., Annual Meeting, Shoreham Hotel,

Washington, D. C.
Mar. 16-19—National Truck Leasing Sys-tem, Spring Executive Conference, San Marcos Hotel, Chandler, Ariz.

Mar. 18-19 - The Refrigeration Research Foundation, Scientific Advisory Council, Package Environment Symposium, LaSalle

Hotel, Chicago. Mar. 22-23—Folding Paper Box Assn. of America, Annual Meeting, Ambassador Hotel, Los Angeles.

Mar. 28-Assn. of Lift Truck & Porto Elevator Mfrs., Pittsburgh Hilton Hotel, Pittsburgh, Pa. Mar. 28-29—The Material Handling Insti-

tute, Inc., Pittsburgh Hilton Hotel, Pittsburgh, Pa.

Mar. 28-Apr. I-Exposition of electric powered materials handling equipment, sponsored by Exide, Shelburne Hotel, Atlantic City, N. J. Mar. 30—Industrial Truck Assn., Pittsburgh Hilton Hotel, Pittsburgh, Pa.

Apr. 4-7-National Packaging Exposition, American Management Assn.'s, Convention Hall, Atlantic City, N. J.

Apr. 22-23 — Heavy-Specialized Carriers Conference, Annual Meeting, Netherland Hilton Hotel, Cincinnati, Ohio.

Apr. 22-24-Associated Warehouses, Inc. Annual Meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla. Apr. 23—American Chain of Warehouses,

Inc., Annual Meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla.

Apr. 23-29-Distribution Service, Inc., Annual Meeting, Americana Hotel, Bal Har-

bour, Miami Beach, Fla. Apr. 24 — Affiliated Warehouse Compan-ies, Inc., and Affiliated Cold Storage Companies, Inc., Annual Meeting, Americana Hotel, Bal Harbour, Miami Beach,

Apr. 24—Allied Distribution, Inc., Annual Meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla.

Apr. 24-29 — American Warehousemen's Assn., Merchandise & Refrigerated Di-Assn., Merchandise & Retrigerated Di-visions, Annual Meeting, Americana Ho-tel, Bal Harbour, Miami Beach, Fla. Apr. 26-28—Fibre Box Assn., Spring Meet-ing, Edgewater Beach Hotel, Chicago.

Edgewater Beach Hotel, Chicago. Apr. 27-May I—National Paper Box Mfrs.

Assn., Inc., Annual Meeting, Jung Hotel, New Orleans, La. May I-Deadline for applications for Juna

tests, American Society of Traffic & Transportation. May 2-5—The Operations Council, ATA., 12th Annual Spring Meeting and Truck-ing Operations Equipment Exhibition, The Shamrock Hilton Hotel, Houston, Tex.

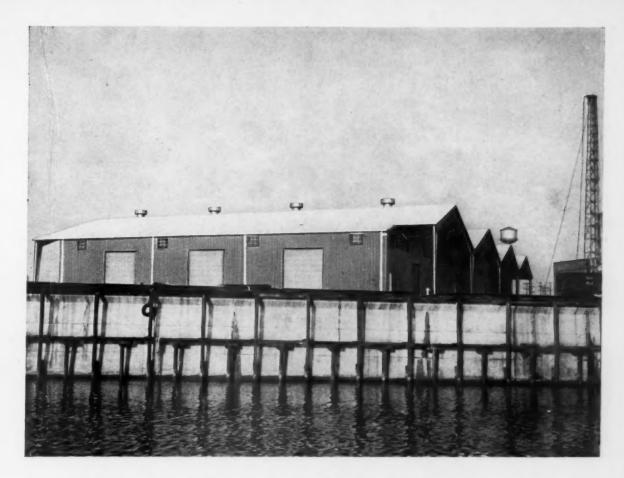
May 6-Movers and Warehousemen's Conference, Pennsylvania Motor Truck Assn., Penn-Sheraton Hotel, Pittsburgh, Pa.

Shippers Advisory Boards

Mar. 9-10-New England, Springfield, Mass. Mar. 9-10—Southeast, Atlanta, Ga. Mar. 10-11 — Trans-Mo-Kansas, St. Louis, Mo.

Mar. 16-17—Allegheny, Pittsburgh, Pa. Mar. 22-23—Great Lakes, Cleveland, Ohio

Apr. 6-7-Midwest, Chicago, Ill. Apr. 19-20—Ohio Valley, Indianapolis, Ind. Apr. 20-21-Atlantic States, Philadelphia.



With weathertough, colorful metal panels ...Butler presents the modern warehouse!



Protection from the elements, functional space and attractive appearance, these are built-in features of your warehouse when you choose a modern Butler Building.

Butler metal wall and roof panels are precision rolled to interlock tightly, then sealed with Panlastic, a proven weatherseal. Result? Complete protection that makes it almost impossible for wind, rain, or destructive pests to get inside and cause damage.

In post-free, truss-free Butler interiors, your freight flows smoothly, and you can stack merchandise right up to the roof. Since walls are not load-bearing, you can install continuous rows of overhead doors for dock areas, at a minimum of expense.

You'll operate from behind a bright, colorful exterior, too. For only with Butler pre-engineered buildings can you choose from two superior wall panels — in a wide selection of durable, factory-applied colors. Butlerib, the standard roof and wall panel, combines exceptional strength with bold beauty. And striking new Monopanl is factory-insulated to create the complete wall in one easy operation.

Low original cost, fast construction and easy expansion are other Butler benefits you should consider. For full details, contact your nearby Butler Builder. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Ask him about financing, too. Or write direct.

BUTLER MANUFACTURING COMPANY

7419 East 13th Street, Kansas City 26, Missouri



Manufacturers of Metal Buildings • Equipment for Farming • Oll Transportation, Outdoor Advertising • Contract Manufacturing
Sales offices in Los Angeles and Richmond, Calif. • Houston, Tex. • Birmingham, Ala. • Kansas City, Mo. • Minneapolis, Minn.
Chicago, Ill. • Detroit, Mich. • Cleveland, Ohio • Pittsburgh, Pa. • New York City and Syracuse, N.Y. • Boston, Mass.
Washington, D. C. • Burlington, Ontario, Canada

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IF YOU GUESSED a porthole, a saucer of milk, or an open manhole, you're wrong. It represents an important source of revenue to the Rock Island railroad: manufactured goods. It's a ¾" standard machine nut, enlarged many times. The point is, no matter what you wish to ship—whether vast quantities of a tiny item (like machine nuts) or a one-of-a-kind colossus—you can be sure the Rock Island will spare no effort to transport it carefully, quickly, and economically. Modern equipment, electronic traffic controls, automatic classification yards, systemwide teletype and microwave networks, experienced, expert, conscientious personnel—all assure that your freight will be handled the way you want it handled.



ROCK ISLAND LINES

The railroad of planned progress ... geared to the nation's future CHICAGO 5



Make sure of the service... before you buy!

Costs start climbing the minute a fork truck goes out of service. The national average for truck downtime is conservatively estimated to be \$16.48 per hour. An important reason why fast, qualified parts service is essential.

It's why Clark dealers offer you the largest inventory of parts in the industry. It's why Clark maintains a 16,000 mile private wire communication system. It's why Clark has built a multimillion dollar parts warehouse near Chicago's Midway Airport.

Everything in the Clark service system is geared to speed. Vital materials handling equipment must be back on the job fast! To assure you of fast service Clark provides you with over 117

service facilities throughout the nation . . . each carrying a complete parts inventory. To back this up, the Clark Central Parts Depot maintains an inventory of over 5 million parts . . . emergency parts that can be air-shipped to any part of the country in a matter of hours. *Only* Clark offers you this service.

Want to see how it's done? A colorful brochure and a film strip describing this service system are available through your local Clark dealer. You'll find him listed in the yellow pages under "Trucks,

Industrial." Or, if you prefer, write direct to: Clark Parts Service, Clark Equipment Company, Battle Creek, Michigan.





Train after train pulls into these modern Union Pacific yards, en route east and west. They run swiftly from receiving tracks onto electronically controlled classification tracks, and out again in regrouped trains—in a matter of minutes.

When you route your freight "Union Pacific" through the west, your shipments go smoothly and dependably over the vast network of track. This electronic yard is one of many features of modern railroading which keeps your goods moving safely and swiftly.

WHENEVER YOU SHIP
IN OR THROUGH THE WEST

be specific...

say

nion

PACIFIC
RAILROAD

RAILROAD

On the Line-



Push-Button War?

At times we feel out of tune with the transient population of the nation's capital. The men we meet in hotels and other places seem to speak but three tongues: Legal (including political) financial, and technological.

Most of the legal boys are carrying hot potatoes: many are lobbyists. If you can help them, they leech on. If you can't, they drop you cold.

The financial boys are there to borrow or loan. They're always talking in terms of millions of dollars. If you're not a prospect, you get the cold stare for poor relatives.

The technologists either are saving the world or destroying it. Mostly, they are peddling super duper electronic gadgets. Unlike the others, they will talk to anybody.

On our last trip to Washington, one of these tech boys latched on to us. He had only one theme: Push-button war; it would last just a few hours.

"It is stupid to maintain a navy," he declared.
"Armies are a thing of the past. All we need is about 100,000 sharply trained military police.
All other occupational forces should be supplied by our allies on the enemy's continent.

by our allies on the enemy's continent.

"The only air force we need is a small, well-equipped fighter corps to put out local fires.

"That's my picture. No ships, trains or trucks.

Just groves of rockets and a radar curtain."

We couldn't sleep well that night, wondering if we were traveling the wrong road to the future. But at 11:30 the next morning, we left the White House with these words ringing in

"There is an old military saying, 'You can do nothing positive except from a firm base'.

"This means that if you don't have a place or an area from which you can replace casualties, supplies, ammunition, and the rest—no matter how well you may start out on any expedition—you are, in the long run, lost. Even Hannibal, after 13 years in Italy, could not finally win because he had no firm base on which to depend."

That made sense even to our non-military mind. Rockets and ICBMs can stun and soften up an enemy. But the final outcome may well be, as always, superior logistics—embracing those "unnecessary" ships, trains, trucks and planes.

When it comes to military matters, we'll string along with an old but pretty successful ex-general rather than these electronics wonder boys.

How About a Proposal, Men?

One day, at the top of the year, we were privileged to attend the State of the Nation Dinner in Washington, D. C. Of all the "top hat" affairs staged yearly in the Capital, this is just about the "top-est."

As a result, we were exposed to a lot of top level talk—like, "Our gross was 12 per cent more than 1958, but our net, after taxes, was 3 per cent less . . . and when you take three from five, that leaves you at the hot end of thousands of burned-up stockholders."

This was our cue, of course, to talk about "cutting that third highest item of the cost of doing business." Before the evening was over, we made the pitch several times. And, to our surprise, our listeners were on top of the problem.

But one man stopped us. "I approved a request," he said, "to send a man to AMA's First Conference on Distribution last fall. To date, I have not received either a report or a proposal to revamp our distribution setup.

"I don't know why. I'm wide open for new ideas. Maybe this isn't for us. I intend to find out."

It could be that this man's trouble was poor communications. More likely, he decided that he sent a boy to do a man's job. We didn't attempt to find out. We just tried to cover up.

"Perhaps your men are making a study of your distribution methods. This may take some time—maybe a few months," we said.

"If they were making a study," he replied, "I would know about it by now."

So he would.

Since that night, we've wondered how many of the 300 men who attended that AMA Conference did anything about it. We recalled telling them. "All that remains now is for you to sell this big, new package of efficiency, revitalized competition and bigger profits to your Board of Directors . . . And if you sell the program, you will sell yourself upward with it."

How about some action, men? Maybe it was your boss that was talking to me about you.

Al Solreene BOTOR_



His voice cuts hours - even days - from moving schedules.

Each move comes under the "strategic command" of GLOBAL dispatchers. They methodically map out the *shortest*, *safest* route... then electronically guide every van every mile to avoid costly delays of bad weather and road hazards. Their precision gets delicate equipment, exhibits, or an executive's possessions to its destination *faster*, *more economically... and in perfect condition*. Call your GLOBAL AGENT.

The modern, methodical moving service for industry



Global van lines

P.O. Box 3313 Terminal Annex, Los Angeles 54, California





Thinking of proposals, on March 1st, Mabel, the president's secretary, was being congratulated on the successful outcome of her Leap Year's Day marriage proposal.

. . . "Weren't you worried that he might have turned you down?" asked

Sadie, her sidekick.

... "No. My boss is surrounded with experienced yes-men. I just picked an eligible one."

BOOKS—No one text will give the distribution manager the breadth of knowledge he needs. He must get his information from many sources and adapt it to his job.

... One of the best books of corollary reading on the various phases of marketing—a key function of distribution management—is "MANAGERIAL

MARKETING."

... Though published in 1958, it will be valuable for years to come. Drs. Eugene J. Kelley and William Lazer are the editors. Publisher is Irwin; \$7.20, 508 pages.

NEWS—U. S. Department of Agriculture reports meat production now is almost a half billion pounds.

. . . Forecast: By 1965, teenagers will consume that much just in hamburgers and hot dogs.

FACTS—In this hemisphere, U. S. supplies about 16 per cent of gross capital investment in Canada, and 10 per cent in Latin America.

... U. S. gets 55 per cent of its imports from this hemisphere, and sells over 40 per cent of its exports here.

... U. S. private investors have staked \$25 billion in this hemisphere, as against \$16 billion in all of the rest of the world.

QUOTE—"Today's needs cannot be served by men or women whose capabilities are limited to their specializations." O. S. Carliss, Yale & Towne.

UNQUOTE—"Of course, I must have those shipments delivered today! If I didn't need them until tomorrow, I wouldn't have called today."



a transportation job
Great Northern knows
reams and reams about

From the vast forests of Washington, Oregon and British Columbia come billions of pounds of paper so essential in this age of rapid communication.

Great Northern provides economical transportation of logs from which are made many of the products used in our every day living—building materials, shingles, pulp and paper.

Paper and related forest products are mighty important to Great Northern. Over the years we've developed special knacks of meeting paper manufacturers' shipping needs. We are equally skilled at transporting other basic commodities—iron ore for the hungry steel mills, wheat for the nation's millers and bakers, apples to grace the nation's tables.

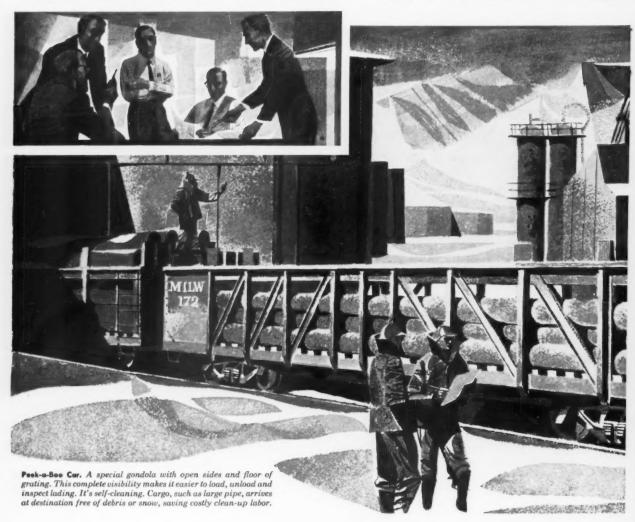
Our diversified commerce is, indeed, one of our great strengths, a strength we derive from the rich and varied resources of the region we serve.

Which of our many shipping skills interests you? Let us tackle the problem.



SOMETHING NEW IN RAILROADING ...

CREATIVE CREWS



...they come up with imaginative new ideas like self-cleaning freight cars

Railroad crews, as you ordinarily think of them, work with such tools as shovels, signal lights, switch engines, ticket punchers.

The tools of the Milwaukee Road's Creative Crews are *ideas*. Ideas that often break with old traditions. And break new trails for getting things done.

Example: A shipper of pipe had the problem of snow and debris which his employees had to remove from cars before loading them. From the men in the Milwaukee Road's car shop came the creative answer. Special gondola cars with open sides and *floors of grating* through which snow and debris can fall. Now

of the Milwaukee Road



called "peek-a-boo" cars, they're saving time and money for many shippers.

In addition, because the sides of these cars are open, it is easier to inspect the lading to be sure that the pipe is properly blocked to prevent damage.

These Creative Crews are at work everywhere on

the Milwaukee Road. Some wear uniforms. Others, business suits. Still others, overalls. You can't spot them by their clothes but you'll know them by the fresh, imaginative way they solve your shipping problems. Creative Crews thinking! It's making the Milwaukee Road America's resourceful railroad.

Route of the Super Dome Hiawathas and Western "Cities" Fleet

ATLAS

VAN-LINES, INC.
AN ORGANIZATION
OF AGENTS, FOR AGENTS

ADDING



Each agent equal in the company No competing sales force

AGENTS



No competing road equipment No competing warehouses

WITH



An agent participates in every revenue dollar

NEW



Agent is paid immediately upon collection by Atlas

PROFIT



Atlas does not use agent revenue for capital

STORY

WRITE WIRE PHONE

You may qualify for an agency

ATLAS VAN-LINES, INC.

8244 S. Ashland Ave., Chicago 36 - Agency Relations Dept.

LETTERS TO THE

Transportation Annual

To The Editor:

Congratulations to you and your staff for the preparation and issuance of your October edition of DISTRIBUTION AGE.

In the short time since this Transportation Annual was received, I have had occasion to refer to it again and again. It is truly a valuable aid to traffic people in that the information it contains is timely, conveniently classified, and saves time in locating desired data.

M. B. Ketter

Ethyl Corp., Pittsburg, Calif.

Bacon Wrappers Cont.

To The Editor:

It is quite apparent that I did not make myself clear in my recent letter (see January DA, Page 22).

The account in question stores with us various items of canned meats in cases, also bacon wrappers in cases. There is no processing of any kind done on our premises. All items are both received and withdrawn in full case lots and we have never stored or handled any other bacon wrappers. Furthermore, each wrapper is imprinted with our customer's name. There could be no question about the ownership.

Most probably, canned meat was delivered and recorded as bacon wrappers or such a mistake could have been made in receiving same. Nevertheless, according to their records and ours, we are short a quantity of canned meat and over a quantity of bacon wrappers. The difference in value we are more than ready to pay.

I would greatly appreciate your reconsideration of our problem and advice as the bacon wrappers are useless to anyone other than our customer and have no salvage value due to having their name printed on each wrapper.

Anonymous

Although I have for many years written all higher court litigations on various subjects of law, I have no records of a case exactly to point of your legal question.

I assume that a jury will have to listen to all testimony and render its verdict accordingly. To correctly anticipate what the verdict will be is quite an impossibility.—Leo T. Parker, DA Legal Consultant.

Private Truck Council Talk

To The Editor:

I would like to have a copy of the talk you made recently before the Private Truck Council of America. If you could sell me one, or give me one, I would greatly appreciate it for some of our people who attended the convention have been discussing the provocative nature of your address.

GMC Truck and Coach Division, Pontiac 11, Mich.

Copies of the talk may be obtained by writing to The Editor, DISTRIBUTION AGE, 56th and Chestnut Sts., Philadelphia 39, Pa.—The Editor.

EY KOR

YOUR CONTACT MAN . . .

Stanley Kornecki of Chicago knows his customers. He knows their needs. More important, he CARES about their needs. Daily customer contacts give this veteran driver-salesman close personal knowledge of the importance of getting each LTL shipment delivered on time. Two-way radio gives him instant contact with his terminal. Stanley Kornecki is confident of the service he represents because he is backed by modern equipment and by the skill of 1,286 fellow ETMF employees. People working together . . . for you.

PRINCIPAL TERMINALS

- . BEAUMONT
- . CHICAGO
- . DALLAS
- . FT. WORTH
- . HOUSTON
- . HENDERSON
- . KILGORE
- . LITTLE ROCK . LONGVIEW
- . LUFKIN
- . MARSHALL
- . MEMPHIS
- . PORT ARTHUR
- . ST. LOUIS
- . SAN ANTONIO
- . SHREVEPORT
- . TEXARKANA

EAST TEXAS MOTOR FREIGHT

"GREAT LAKES TO THE GULF"

GENERAL OFFICES . DALLAS, TEXAS

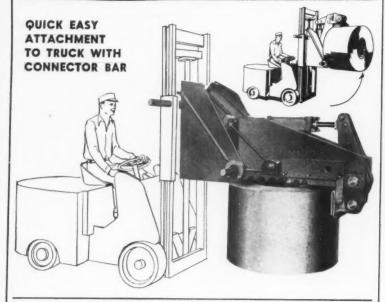






NEW! COIL MANIPULATOR

PATENT PENDING



SAVES COIL HANDLING TIME!
PREVENTS COSTLY DAMAGE TO COIL EDGES!
SAVES VALUABLE STORAGE SPACE!

- * SECURELY GRABS COILS FOR TRANSPORTING AND STACKING
- # LIFTS COIL
- * TURNS (INVERTS COIL) MANIPULATES FROM HORIZONTAL TO VERTICAL POSITION IN ONE OPERATION
- ★ HIGH PRESSURE CLAMP QUICKLY ADJUSTS TO ANY COIL SIZE OR CURVATURE

MODEL ILLUSTRATED

QUICK ADJUSTING
CLAWS FOR COILS UP
TO 6000 LBS, BUILT-IN
PRESSURE SAFETY VALVE
KEEPS COIL SECURELY
CLAMPED AT ALL TIMES

SPECIAL MODELS MADE TO YOUR SPECIFICATIONS WRITE FOR COMPLETE DETAILS



ALLIED MFG. & SALES CO.

MATERIAL HANDLING DIV. OF GRAND SPECIALTIES CO.

3101 W. GRAND AVE.

CHICAGO 22, ILL.

SINCE 1921

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News ...

(Continued from Page 11)

News Briefs

General office personnel are being moved from three Chicago locations to the Engineering Building, 205 W. Wacker Drive, Chicago, by Spector Freight System, Inc. The company has leased 26,000 sq ft of the building.

A buried 6-in. petroleum pipeline, 3 miles in length, was cleaned by the gas turbine produced by The Garrett Corp., recently. The process includes sand washing the pipe walls. Mill scale, oil, paraffin, and carbonates and rust are all removed.

The principle that a growing and guaranteed volume should be reflected in a shipper's freight rates underlies an annual volume rate on fuel oil proposed by the Soo Line before the Western Trunk Line Committee. This is a preliminary step in its adoption.

Eastern Air Lines is converting five of its Super-C Constellation passenger airliners to air freighters. The first unit is scheduled for May service. Capacity will be 34,000-lb. Lockheed Aircraft Service will handle the conversion.

Intercity freight tonnage hauled by truck in November 1959 was 8.4 per cent more than that of November 1958. The American Trucking Associations, Inc., also reports that truck tonnage in November was 12.2 per cent below that handled in October.

The Southern Railway System has ordered a transistorized data processing system from International Business Machines Corp., in a move toward "more sophisticated accounting" and advanced cost-finding techniques and business problem simulations.

New member of The Material Handling Institute, Inc., is the Materials Handling Division of Crown Controls Co., Inc., New Bremen, Ohio.

John Morrell Manufacturing Co., makers of electric fork-lift trucks, has been purchased by Minneapolis-Moline Co. Under contracts awarded by the Navy, the new materials handling division of Minneapolis-Moline will build approximately 1000 tow tractors of 4000-lb drawbar pull and fork trucks of 4000 and 6000-lb lift capacity.

North American Car Corp. has placed a \$3,150,000 order for 250 bunkerless refrigerator cars with Pacific Car and Foundry Co., Renton, Washington. The cars will be equipped with roller bearings and have 50-ton capacity.

The Illinois Central is now handling Flexivan. Shipments of U. S. Mail are moving between Chicago and Western line points over Illinois Central track.

(Please Turn to Page 34)



1960 SERVICE FOR 1960 MODELS

Now 1960 automobiles are moving from Western assembly plants double-decked on auto transport trailers, in turn riding on S.P.'s extra-long Piggyback cars. Piggyback on Piggyback! One rail car carries two trailers, each with four or five standard-size autos or six of the new compact models—as

Southern Pacific Truck Service moves the loaded trailers from assembly plant to train, and from train direct to dealer's door.

many as twelve automobiles on one railroad car! This is another example of resourceful planning for more efficient, more productive freight-handling, via S. P.— no matter what you have to ship.



Southern Pacific

serving the West and Southwest with TRAINS • TRUCKS • PIGGYBACK • PIPELINES

Traffic

Elmer W. Dunn—elected chairman, Eastern Regional Traffic Committee, Aerospace Industries Association, Washington, D. C.

Joseph M. Kostecki—named warehouse manager, CBS Electronics Division of Columbia Broadcasting System, Inc., Newark, N. J.

Harold E. Gawlik — new manager, Transportation Division, Milwaukee Association of Commerce.



Clinton H. Vescelius — new director of transportation, Olin Mathieson Chemical Corp., New York.

Joseph S. Chartrand — appointed vice president, Transportation Department, Board of Trade of the City of Chicago.

Q. L. Perry — elected chairman, Traffic Rate Committee, Automobile Manufacturers Association, Detroit; Paul G. Fritzsching, Jr. — chairman, Traffic Committee.

Hugh Hardwicke—new general secretary, Atlantic State Shippers Advisory Board for 1960. He is traffic manager for Larus and Brother Co., Inc.

Edson E. Baldwin — appointed director-traffic and warehousing, Campana Corp., Batavia, Ill.

Transportation-Air

O. L. Slay—named director-air cargo sales, Continental Airlines, Denver, Colo.

Charles W. Rinka—appointed general traffic manager-air freight, American Express Foreign Traffic Department, New York.

John H. Mahoney—elected vice president-marketing services, Capital Airlines, Washington, D. C.

Hendrik S. Leopold — new sales manager, Pan Maritime Cargo Service, Inc., New York; Henry A. Del Castillo — operations manager-Midwest Division.

Thomas M. Miller — named vice president-traffic and sales.

-Highway

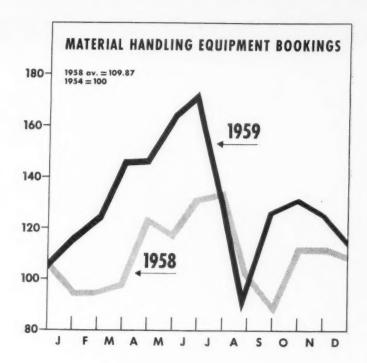
Frank Fahey — promoted to vice president-special commodities, Spector Freight System, Inc., Chicago; Roger Gerling—vice president-sales.

E. A. Sommers — appointed cargo van product manager, Brown Trailer Div., Clark Equipment Co., Chicago.

Div., Clark Equipment Co., Chicago. C. F. Larsen—appointed assistant to the vice president-general sales manager, Mack Trucks, Inc., Plainfield, N. J.

Charles B. Brown—joins Highway Trailer Industries, Inc., as assistant to the president.

George J. Hauser—appointed assistant to the president-sales, Highway Trailer Co., New York.



Men in the News

W. Leo Murphy—elected chairman of the Board, Gateway Transportation Co., La Crosse, Wis.; E. W. Murphy—vice chairman of the Board; John A. Murphy—president; Michael P. Murphy—vice president-treasurer; James R. Smaby—vice president-secretary.

Joseph J. Thoma—new managercentral planning, Fruehauf Trailer Co., Detroit.

R. L. Bartlett — named superintendent-transportation, East Texas Motor Freight, Dallas.

-Rail

Francis S. Norton—appointed assistant vice president-traffic, Railway Express Agency, New York; Walter N. Johnson—named assistant to vice president-traffic.

Ernest W. Williams, Jr.—elected a director, ACF Industries, Inc., New York.

Howard C. Forman—appointed assistant vice president, Louisville and Nashville Railroad, Louisville, Ky.

-Water

Thomas E. Stakem — elected vice chairman, Federal Maritime Board, Washington, D. C.

Gilbert F. Coyle — assumes charge of Freight Service Div.; Manuel Diaz

- heads Caribbean Services Div., Grace Line, New York.

Materials Handling

Richard G. Ochsner—in newly-created post of director of materials handling, Yale Materials Handling Division, Philadelphia.

Walter F. Friedman — named vice president, Dasol Corp., New York.



James V. Wright — named materials handling director for National Retail Lumber Dealers Assn., Washington, D. C.

W. R. Sterling—appointed to Sales Division, Baker Industrial Trucks, Cleveland, Ohio.

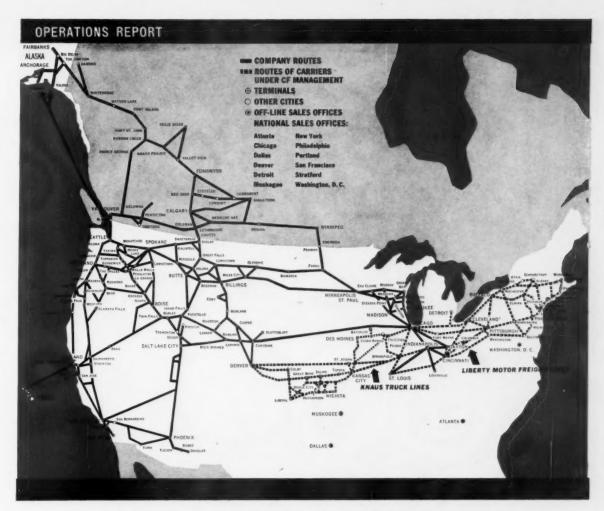
Robert E. Boyd—promoted to manager - market research, Automatic Transportation Co., Chicago, Ill.

Arthur J. Frank—moves up as assistant to the president, Chain Belt Co., Milwaukee, Wisc.

Deaths

Robert E. Farney—a past president of the Society of Packaging and Handling Engineers and author of articles on packaging.

C. J. Goodyear—past president of the Traffic Club of Philadelphia.



Is your business along these routes?

More than 30 years ago, Consolidated Freightways began giving overnight truck service to communities in the Pacific Northwest. From the first, its management extended service to other communities as rapidly as possible, believing that commerce would follow wherever good freight service was provided. Equally important through the years has been a consistent policy of diversification — in equipment, in type of service, in facilities. Today CF means not only complete and versatile general commodity serv-

ice, but a wide variety of specialized transportation and related activities.

It has always been and will always be a highly personalized, localized business. Your CF representative is intensely interested in your business, your community. That's because your business is his business. For full information about any CF service, contact the Consolidated Freightways Information Center, Department 81, Box 32, Chicago 50, Illinois. Telephone AUstin 7-7003.

CONSOLIDATED FREIGHTWAYS



TRANSPORTATION WITH IMAGINATION









Why all these famous companies use National Van Lines for moving...

families . . . displays and exhibits . . . highvalue goods...office furniture and equipment

- 1. Shipments are picked up and delivered on dates that are agreed upon.
- 2. Goods are handled with care . . . wrapped in National's exclusive Float-Pak . . . carried in National's hygienically clean Flag Fleet vans.
- 3. Cost with National is the lowest of any nation-wide* van line.

Call your National agent today for counselling and an estimate. He is listed in the yellow pages. No obligation, of course.

*National Van Lines Authority: I.C.C. Certificate No. MC42866.



AT YOUR SERVICE:

National Van Lines' new Flag Fleet . . . and your personal Van Driver.

NATIONAL

AGENTS IN ALL PRINCIPAL CITIES—WORLD HEADQUARTERS, BROADVIEW, ILLINOIS

© .1960 by National Van Lines, Inc.

Choice of cab-forward or conventional trucks

FOR ECONOMICAL **HAULING** ON YOUR **WORKADAY JOBS**



The sooner handsome, efficient Mack trucks or tractors swing into action for you, the sooner you'll start to realize their tremendous profit potential . . . their bonus cargo capacity . . . their strength, stamina and dependability . . . that they're Macks from the word "Go!"

These Macks give you every feature needed for economy and durability. Engines from 130 hp gasoline to 205 hp turbocharged diesel, Mackbuilt transmissions, brakes, frames and axles that best fit your operation. Mack trucks and tractors are built with Balanced Design-the exclusive Mack practice which assures you of the most efficient, economical, trouble-free truck. It is made possible by matching components so exactly that they function as a completely integrated vehicle for maximum service life. To achieve Balanced Design, Mack-alone among truck manufacturers-insists on designing and building all its vital components.

Why not get in touch with your local Mack branch or distributor and let him show you the Mack B Model or the cab-forward N Modelthere is one that is exactly right for your operation. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.



MACK FIRST NAME FOR TRUCKS

Circle No. 6 on Card, Facing Page 51, for more information



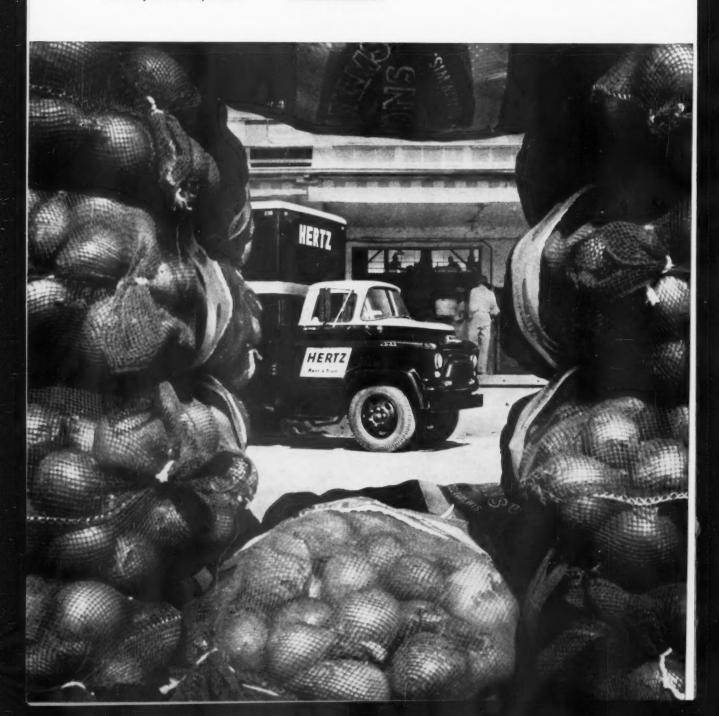
Peak delivery periods or emergencies are no problem for the man who uses convenient Hertz Truck Rental Service. At Hertz you'll be able to rent Chevrolet, GMC and other modern, sturdy trucks fast. Vans, stakes, panels and pickups in all sizes are always in readiness. That's because Hertz is America's No. 1 truck rental company with more than 500 truck stations in the U. S. and Canada.

All you need is a driver's license and proper identification—Hertz takes care of the rest. Hertz low rates include insurance...gas and oil (even if you buy it on the road). You can rent a Hertz truck by the hour, day, week or longer.

Even tractors and trailers for local or long haul use may be rented in many cities. Hertz also offers long-term, no-investment, no-upkeep truck leasing for economical year-round operation.

HERTZ TRUCK RENTAL

IF "IT" CAN'T WAIT... RENT A HERTZ TRUCK





WASHINGTON



By Neil R. Regeimbal, Chilton Washington News Bureau

TRANSPORT BATTLE WARMS UP-Battle between various carriers over government's transportation role is flaring again. No major congressional action is expected this year. But red-hot debate may set the stage for action in 1961. The battle got under way in February with House Commerce Committee hearings over railroad-supported bills to permit common ownership of different forms of transportation. Truckers opposed them. Meanwhile, with the new Commerce Dept. transportation study imminent, President Eisenhower has called for a "real overhaul of antiquated" railroad regulations to "permit them to be prosperous." At the same time, barge operators were fighting a proposal of two railroads to buy a large Mississippi River barge operation.

PROBE HIGHWAY PROGRAM — House investigators opened public hearings in February on charges that lack of coordination between civilian road program administrators and the Defense Dept. has seriously weakened the value of the program to date.

SHRINKING STOCKPILE PROGRAM—Government's stockpile program is shrinking rapidly. President Eisenhower asks only \$53.4 million to run the program in the next fiscal year, compared with \$71.8 this year and \$105.7 a year ago. Buying of new materials will take only \$5 million, down from \$15 million this year and \$44.5 million a year ago. Storage costs will run about a million dollars below this year, at \$13.8 million. Materials are now stored at 2.7 million locations of 25 million sq ft of closed space, 55 million ft of open space and 2 million bbl of tank storage.

CO-OP TAX SPLIT—Controversy over taxation of cooperatives is spreading. The Eisenhower Administration and Democratic congressional leaders both favor some new tax on co-ops. But they're having trouble agreeing how to impose it. Co-op associations, some farm groups, still bitterly oppose any new co-op tax.

PALLET WAGONS TAXED — Special wagons designed to carry loaded pallets are subject to the manufacturers excise tax if they can be adapted with beds for general use on the highways. Models which cannot be converted, and can only be used with pallets in orchards, farms, or similar areas, are not subject to the tax.

MILITARY MOVING ACT DELAYED—Defense Dept., under strong pressure from the moving industry and from Congress, has suspended at least until July 1 its proposed new moving regulations. Protests centered on lack of advance notice and chance to comment as well as on substance of proposals. Pentagon will work with movers in the interim to work out a compromise.

GRAIN RATE CUT COMING—Rates the government pays to warehousemen for storing government grain are expected to be cut by the U. S. Agriculture Dept. Officials told Congress the payment cuts were coming in answer to charges that present rates are too generous. Secretary Benson says variable contracts for storage may be an answer. Preliminary results of a new grain storage study show direct operating costs for warehousemen vary from 5 cents to more than 21 cents a bushel a year. This doesn't include handling charges, quality deterioration, shrinkage, or return on investments. Study covers 9600 warehouses with 2.8 billion bushel capacity.

WATER CARRIERS STUDIED — Senate Merchant Marine subcommittee opened its hearing year in mid-February with discussions of the problems of America's coastwise and intercoastal steamship operators. Hearings were also held on measures (S. 2300 and H.R. 5068) to bring all independent waterway freight forwarders under regulations and control of the Federal Maritime Board. Some forwarders are now under Board control.

EXEMPT PLATFORM TRUCK—Government tax agents have exempted from the manufacturers excise tax platform trucks designed for use at warehouses, terminals, industrial plants, and airports. The trucks, 12 ft long and 58 in. wide and equipped with a single-seat driving compartment, have a seat and gas tank construction which will not meet ICC road requirements. Although capable of carrying from 2000 to 6000 lb, and of speeds up to 35 mph, the vehicle is not considered adapted to highway use.

SEAWAY LOSS FORECAST—The St. Lawrence Seaway will lose almost \$5 million in the fiscal year beginning next July 1. The U. S. share of the loss will be \$2.3 million. Tonnage last year hit 20 million tons, and is still expected to reach 50 million tons a year by 1968.

Chuting the News . . .

(Continued from Page 26)

Truck Lines, ATA Ask Review Of ICC Rules for Piggy-Back

The Interstate Commerce Commission is being urged to review its rules covering piggy-back operations by railroads.

The request was presented in a petition filed jointly by 44 truck companies and the American Trucking Associations, Inc. The Commission is asked to reconsider its ruling which has prevented for-hire motor carriers from using the same rail piggy-back service now available to others.

The petition asks the ICC to reopen and reconsider its decision in the New Haven case. In this 1954 case the ICC laid down its views on the legality and scope of railroad piggy-back operations.

CAB Hears Airline Official

An official of American Airlines, William Littlewood, told the Civil Aeronautics Board that his company is aiming toward turbine-powered airfreight planes in the 40 to 60,000 and the 80 to 100,000-lb payload ranges operating at direct flight cost of four or five cents per available ton mile. He was appearing in connection with the CAB's Domestic Cargo-Mail Services Case.

Stanford University's Graduate School of Business has scheduled its 1960 Transportation Management Program from June 19 to July 16.

--DA--

CMStP&P, RI Study Merger

The Chicago, Rock Island and Pacific Railroad Co. and the Chicago, Milwaukee, St. Paul and Pacific Railroad Co. have engaged an investment banking house, a law firm, and consulting engineers to study the feasibility of a merger of the two roads.

Reed to Head MATS Study

Gordon W. Reed, chairman of the Board of Texas Gulf Producing Co., has been named to head the seven man committee of civilian transportation experts set up to study the Military Air Transport Service's Strategic Airlift Forces. The Reed Committee will determine the best method of procuring commercial airlift by MATS for the Defense Department.

The Packaging Institute, Inc., will hold a professional member seminar on Glass Containers on April 12 in New York City. Irwin R. Sipherd, National Distillers Products Co., will serve as moderator.

April Gathering for HSCC

April 21-23 has been selected for the Annual Meeting of the Heavy-Specialized Carriers Conference at the Netherland-Hilton in Cincinnati, Ohio. Such topics as Joint Tariff 100-C and the new Return Loads Corp. will be discussed. President Welby Frantz of the American Trucking Associations, Inc., will be one of the guest speakers.

Texas Size Mail



A Texas size letter, 3 ft long and 5 ft high, launched a letter writing campaign for passage of a National Transportation Week proclamation. The letter is shown here with (left to right) Le Roy; Jo Newton; Charlotte Woods; John Scott, president of Houston Freight Carriers' Association; and Paul Lawrence, president of the Men's Traffic Club of Houston.

FPBA to Meet March 22-23

The Annual Meeting of the Folding Paper Box Association of America will be held at the Ambassador Hotel, Los Angeles, March 22-23. The two-day meeting will be preceded by the Association's folding carton competition. Theodore Anderson will be one of the speakers. He is director of economic development for California.

Club Briefs

The Transportation Club of Syracuse, N. Y., recently heard C. W. Hinkels, assisant vice president, New York Central Transport Co., speak on Flexivan.

A panel discussion dealing with rates of the various modes of transportation was enjoyed during a recent meeting of Indianapolis, Ind., Beta Upsilon Chapter, Delta Nu Alpha.

Past Presidents and Old Timers Night was held by the Newark Traffic Club.

The Annual Dinner of the Traffic Club of Hudson County, Inc., was held at the Hotel Robert Treat recently. Ralph Rossi headed the Arrangements Committee.

The Traffic Club of Baton Rouge, La., has installed its 1960 slate of officers. They include Doss H. Berry, Jr., Baton Rouge Freight and Transportation, president; M. T. Abington, Louisiana Agricultural Supply Co., first vice president; C. T. Baskin, Missouri Pacific Railroad, second vice president; F. J. Kryso, Dow Chemical Co., treasurer; and W. J. Lewis, Ethyl Corp., secretary.

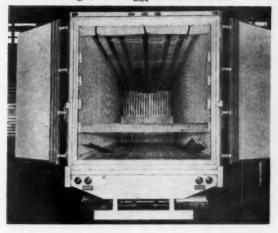
The Delaware Valley Chapter, American Material Handling Society held a seminar meeting recently with Earl R. Lutz, M. C. Dean, Louis H. Meyer, Robert McKee, Richard Z. Freeman, John W. Crowe, and William L. Nassau, III as participants.

An authority on the physical characteristics of glass containers, Dr. Leonard G. Ghering, president of Preston Laboratories, addressed a recent gathering of the Eastern Chapter, Society of Packaging and Handling Engineers. He spoke on "The Story Behind the Bottle."

The Highway Transportation Committee of the Eastern Industrial Traffic League, Inc., recently met with the Middle Atlantic Conference Contact Committee to discuss several matters affecting transportation in general.

The Inaugural Ball of the San Francisco Traffic Club was held recently. Robert Armstrong was installed as president; Fred Bergold, vice president; Charles Wilcox, secretary; and Tom Manahan, treasurer.

Refrigerated Piggy-Back Trailers





One of the first piggy-back trailers designed for transportation of all types of refrigerated cargoes was put into service recently by the Wabash Railroad. The trailers use a system operated by diesel fuel or electric standby. Rear doors on the trailers are full width and equipped with refrigeration-type hardware. Interior lining is marine plywood, special plastic sheeting, and a half-round chemically-treated stripping. Floor is extruded aluminum for good cross ventilation. Temperature adjustment range is from —20 deg F to 80 deg F. The roof of the trailer is equipped with meat rails for meat hauls

Coordinated Transportation Tops Changes in Store for Carriers

"Rapid strides in coordination" of the services of different modes of transport is the biggest change in store for U.S. transportation.

This was the forecast which Walter F. Carey made recently at a luncheon meeting of the Washington Chapter of the National Defense Transportation Association. Carey is national president of the NDTA. He stated that only teamwork among all independent carriers can and will bring the necessary coordination.

The luncheon honored Juan T. Trippe, Pan American World Airways president, who received a bronze plaque citing him for pioneering 65,000 miles of overseas air routes.

Packaging Institute's "Glossary of Packaging Terms," the third edition, is being revised. It will contain more than 125 new definitions.

—DA—

National Roadeo, Sept. 15

Truck drivers from across the nation will meet in St. Paul, Minn., Sept. 15-18, for the 1960 National Truck Roadeo. As in the past, there will be five classes of competition—straight truck, three, four, and five axle tractor trailers and tank truck.

New Transportation Law Urged

Representatives of airline, railroad, trucking, and water carrier groups met in Washington recently at the invitation of the Chamber of Commerce and its Department of Transportation. They called for simplified and uniform state laws on interstate transportation.

Packaging Award Entries Due

Entries are being received for the 1960 Annual Awards to be presented by the Packaging Institute for outstanding contributions to packaging technology. Entry forms may be obtained from the Institute, 342 Madison Ave., New York 17, N. Y. Those entering need not belong to the Institute.

NFCC Plans Reduced Claims

A plan to reduce freight claims is being promoted by the American Trucking Association - sponsored National Freight Claim Council. Trucking company employes can accumulate claim reduction points based on the average value of a single freight claim. Point certificates pay for any one of 509 items in prize catalog.

Western Packaging Show in May

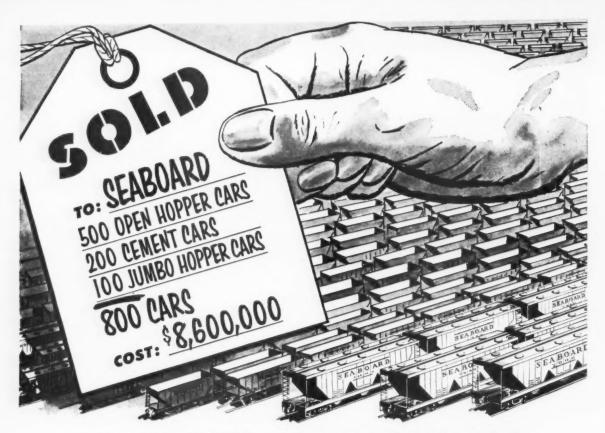
The Western Regional Material Handling and Industrial Packaging Show expects to host more than 600 manufacturers from May 11 to 13 in Los Angeles. J. I. Case Co. has taken an acre of ground to demonstrate its earth-moving equipment. Other companies are using plots of land for their "show-within-a-show" demonstrations.

A series of workshop discussions on ways to improve operating efficiency of trucking companies will highlight the 12th Annual Spring Meeting of The Operations Council of the American Trucking Associations, May 1-5 at Houston, Tex.

Domestic Water Carriers Form

The Committee of Domestic Water Carriers was formed recently. Its goal is to create a common purpose in regard to legislative activities among carriers providing service over inland channels, on the Great Lakes, in coastal and coastwise trade, and in deep-sea operations. A. C. Ingersoll, Jr., is chairman of the group and president of Federal Barge Lines, Inc.

(Resume Reading on Page 14)



TO SERVE YOU BETTER

These new cars, scheduled for early-summer delivery, are designed to provide the most modern equipment available for efficient low-cost transportation of your bulk commodities.

This purchase represents just one of many investments in the growing, expanding Southeast which Seaboard has made in the past and will make in the future. Our plans are geared to tomorrow's as well as today's requirements of this favored area. New equipment, plant improvement and maintenance enable Seaboard to provide shippers with the kind of service they want . . . and we know there is no substitute for efficient, personalized handling of every shipment routed S.A.L.



More Seaboard progress — Piggyback service is now available between principal points on the Seaboard and the North.



THE ROUTE OF COURTEOUS SERVICE



MARCH 1960 . . VOL. 59, No. 3

DISTRIBUTION management is the first really new development in industrial management in the past 50 years. In effect, it is an industrial application of certain physical phases of the highly developed military science of logistics.

During the last decade, distribution management grew like topsy—long on some characteristics, short on others, and completely lacking some important ones. Today, hardly any one distribution management organization setup bears much of a resemblance to another.

For years, management put a premium on mass production and sales effort. But mass production requires a large capital investment. So management concentrated on financing, and great corporations came into being. Big business then outgrew on e-man management. This forced attention on management teams, systems, and administrative ability.

Competition among these big industries brought new techniques into play—sales promotion, marketing, industrial engineering, product research and development. As more orders poured in, new engineering and materials handling techniques stepped up unit production.

Industry management turned itself into a great three-ring circus—sales, engineering, with production in the big center ring. Each ring had its share of specialists. Some performed in more than one ring.

All the while, a bottleneck existed at the end of the production line. Out by the plant's railroad sidings and truck docks, shipping clerks and warehouse workers were struggling to keep the flow of goods moving. To break the log jam, and keep the salesmen happy, the idea of warehousing stocks around the country was adopted.

But the stocks never seemed to be where they were needed. Almost every shipment seemed to be RUSH! The resulting pressures created great OS&D problems.

The DM, new man on industry's top team

Physical distribution—a three-phase function of industry—has a new leader in the top management circle. He unites sales, transport, production

Shipping costs got away out of line. To help solve some of these problems, manufacturers went into the private trucking business.

Long after office and factory workers won the nine-hour day, and the eight-hour day, shipping clerks were hitting the docks at seven in the morning, and earlier. They were happy to leave by seven at night. Those who were able to keep reasonably abreast the flow of goods acquired such titles as shipping manager, transportation manager, warehouse manager, traffic manager.

But as business increased and industries grew, shipping problems also grew. To meet them, the size of the warehouse, transportation, and traffic departments increased. So did the number of their bosses. In some cases, the company sales manager demanded control over the shipping function. In others, the production or purchasing heads took over. And, in countless other cases, almost everybody from the president down got into the act. This put the distribution function in a gray zone of management responsibility.

Then, about 10 years ago, a strange job title appeared in the

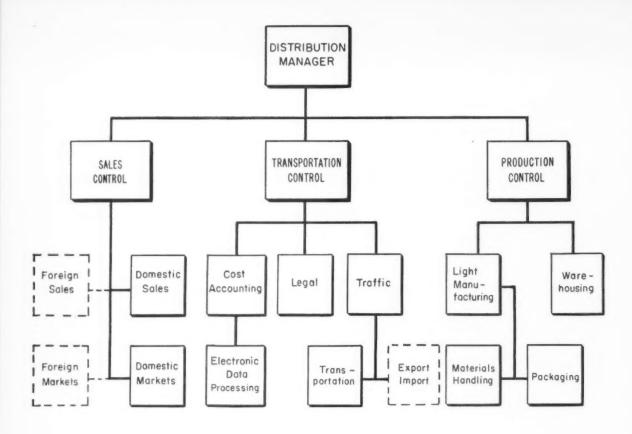
upper eschelon of industry's organization charts. It was "Distribution Manager."

The reaction that this function created was one of amazement. This new executive cut clerical delay and red tape between the plant and the customer. He broke the log jam at the end of the production line. In fact, he controlled the line's speed and makeup—gearing it to sales and market potential.

For certain products, he developed a system of decentralized distribution. For others, where raw materials were widely available, he influenced top management decision to set up branch plants and used them as distribution centers. In all cases, he redistributed stocks of finished goods, giving all customers low-cost, overnight delivery service. He cut OS&Ds sharply.

Administratively, he set up a self-contained distribution team. He assumed responsibility for production lead time and inventory control. He united great sums of money for working capital by disposing of most company-owned warehouses, highway trucks, and rail cars. Most important, he slashed his company's distribution

(Please Turn Page)



The DM ...

(Continued from Preceding Page)

cost—the third largest item of expenses.

All of this happened within the past decade. Yet it should have come into being at the same time as mass production. Despite this serious oversight of top management, mass distribution—under the direction of the Distribution Manager—has become a cardinal principle of industrial management.

How come it took so long for recognition and acceptance? One of the delaying factors had to do with the economics of the times. For example, prior to World War II. At a moment's notice, one could pick up a crew of laborers, on an hour- or day-wage basis. When their work was done, they were paid off and sent home.

Labor was so cheap that it was very hard to make a case for efficient distribution techniques. Now distribution cannot afford manual labor. Now it must step up efficiency and cut costs. This is industry's last frontier of major cost reduction.

Now distribution management has reached the point where a reevaluation of its scope and responsibility is essential. The first step must be a definition of the function, so that all considerations will be from the same base.

Several definitions are in current usage. While they differ in words, they agree in concept. One such definition—the most concise—is: "A distribution manager is an industry executive who 'delivers the goods'—goods being the company's finished products of manufacture." Another definition is worded: "The distribution manager is a top echelon industry executive who directs the physical distribution of his company's products from the end of the production line to the consumer.

The last definition shows one of the problems of general definitions. In some cases, the consumer may be the housewife; in others, another manufacturer. But the problem goes deeper than semantics. A distribution department to service the point of retail sales must be set up differently than one whose products are components used in the manufacture or assembly of other products or equipment.

Because the majority of American industries do not fall into the extreme categories stated above, it will be best for this occasion to consider a median type. This would be an industry whose product sales contact ends with the wholesaler and/or supermarket-variety store chains, whose range of stocks are quite broad.

The next step is to outline the basic responsibility. Again, in general, the distribution manager's responsibility begins at the end—or near the end—of the production line. The production department's responsibility ends there. The distribution manager, therefore, must "deliver the goods."

A few companies have made more than a responsibility break at (Please Turn to Page 59)

What the DM should know about product flow

THE DISTRIBUTION manager. to perform efficiently as a toplevel planner, must understand the structure within which physical distribution operates.

Marketing of commodities takes place in a framework which can be divided into two interdependent parts. The first consists of those marketing institutions which create demand and perform the breakbulk functions. The second is the transportation network which moves commodities from producer to consumer.

In discussing demand factors, my principal emphasis is on the manufacturer of consumer goods. This is because demand for consumer goods determines the demand for industrial goods. The same principles set forth are applicable to the manufacturer of either. There is some tendency, however, for the average size of shipment to be larger in the industrial market.

The industrial goods market, as contrasted to the consumer goods market, generally possesses the following characteristics:

Larger average size of purchase. A derived and more widely fluctuating demand.

A more limited number of customers.

A more rational basis of purchase.

More technical selling.

More reciprocity.

More direct distribution from manufacturer to consumer or user.

Example of Product Flow

The petroleum industry applies physical distribution principles to its movement problems. The main elements of this industry are a number of scattered well sites, a

Every cost item for each method of shipping must be included in the evaluation of a new distribution plan. Central control is needed

By Dr. Edward W. Smykay, Dept. of Marketing and Transportation Administration, Michigan State University,

and

Dr. Frank H. Mossman. Dept. of Marketing and Transportation Administration Michigan State University

system of collection and storage of crude petroleum, a main trunk pipeline, a refining facility, wholesale and retail outlets, and the consumer.1

The design of the entire system connecting the origin of the movement to its ultimate destination must be consistent with sound engineering and economic principles.

That design is best which meets market requirements at minimum costs. The simplest part is the main line. Once total demand is estimated, then that size pipe will be chosen which makes it possible to maintain regularity of flow. This will maximize utilization of pipeline investment.2

Then sub-systems for crude oil

collections and gasoline deliveries must be designed. Wells will be located in a certain pattern within the producing territory. After a study of these patterns, the wells will be grouped into a series of self-contained producing units.

Some wells probably will be located at considerable distance from the collection and storage point at the end of the pipeline. Those which can be grouped into self-contained units and which are in an area of relatively dense well populations ordinarily are connected together into a gathering system for that particular group. This gathering movement is usually transported by pipe when production from the individual well and its group is sufficient to justify the investment. The diameter of these pipes is determined by the volume expected.

The next step is to connect the groups of wells so that the total volume of crude oil reaches the terminal delivery point (engineering design) of the main pipeline at minimum cost (economic design). Again, it is the volume which is critical in this decision.

Finally, for the isolated lowproducing wells, it seems the volume may fall below the minimum required to justify the investment in pipe. At this point, tank trucks may be used. Notice that although

(Please Turn Page)

¹ This illustration is limited to the distribution aspects of gasoline for final consumption in automobiles.

² Certain problems in trunk pipeline design are purposely eliminated from the discussion in order to emphasize the fundamentals of the problem. Two of these are seasonality of demand and intermediary delivery problems.

EDITOR'S NOTE—This article is excerpted from a soon-to-be-published book on "Physical Distribution." The publication date has not yet been announced.

Raw Materials	Raw Materials Processing	Intercity Transport	Manufact- uring	Warehouse and Storage	Wholesale	Retail	Consumers
CF	UDE OI	LANDG	ASOLIN	E SYST	EM	5	
Distribution of Well Sites (2-in pipes feeding 6-in pipe)	Storage and Collection Depot for Crude Oil	Pipeline	Refinery	Refinery and Storage	Field Gasoline	Gas Station	9000
a ,		10 to 30 in.	6 to 10 in.		000	0	0
000	0000 0000 0000		0000 0000 0000	0000		0=	000
				6	2/2 L	0=	0000
	GENERA	MARK	FTING	SYSTEM	0000	0=	000
0 0 0	000	Truck, Rail.	000			0=	99
Pattern of Raw Materials and Supplies Locations (Local Transport)	Raw Materials Market	Air, Water, Pipe	Plant	Plant Storage	Warehouse Wholesaler	or Retail Outlet	
Raw Materials	Raw Materials Processing	Intercity Transport	Manufact- uring	Warehouse and Storage	Wholesale	Retail	Consumers
=Consolidating Functions	=Break	-Bulk Funct	ion o=R	aw Materia	1 Resources	O=Con	sumer Unit

... About product flow

(Continued from Preceding Page)

collection by pipeline may be feasible from an engineering point of view, the low volume may prevent pipeline construction on economic grounds.

Delivery Program

Turning to the problem of moving the manufactured gasoline from the refinery to the local gasoline station, the principle of grouping local outlets is again employed. Delivery systems are then designed to meet market requirements at each of these outlets.

Because of relatively low volumes sold at each retail outlet, and because market factors are more important in determining locations of stations, the employment of a pipeline system is not ordinarily justified for this level of distribution. Rather, product pipelines connecting the refinery to the major markets are constructed in conjunction with storage depots. From the depot to each individual station, trucks are employed.

Notice that the major determinant of the selection of a pipeline system, rather than truck carriage, is based on volumes for each level in the producing and marketing patterns compared with capital costs that may be supported by the volume for each separate part. When volumes are low, the system chosen usually is the one which requires low fixed cost but high variable expense (trucks). When volumes are high, the alternative chosen is one with high fixed ex-

pense and low variable expense.

We now may discuss the pipeline illustration as analogous to any problem in physical distribution. In order to clarify the analogy, a pair of parallel diagrams showing the relationship of the pipeline system to a general marketing and distribution system are shown in the accompanying drawing.

Diagramming of the physical product flow in a general marketing situation clearly shows certain nodal points. These points take two characteristics. They are either concentration or break-bulk points.

In the accompanying chart, all movements up to the point where they enter into the major intercity trunk line are essentially the result of combining shipments into larger lots. Movements between any two nodal points occur as a result of the transportation function. But the engineeringly feasible alternatives may well vary because of differences in physical

distribution problems between any two nodes.

All movements beyond the manufacturing node are breakbulk points. That is, the total production of the plant is regrouped to more efficiently serve particular market segments, the total demand of which is less than annual plant production.

For each node, particular and specialized marketing institutions have been developed. These are indicated in the chart by representative types. Long and detailed listings of the whole array of such institutions could be shown. However, this would be of no particular value.

Physical distribution functions of marketing institutions are stressed. At any nodal point in the system, incoming volumes differ from outgoing volumes. Too frequently, purely descriptive marketing functions are stressed as a method of classifying marketing institutions. The analysis above clearly shows that one of the most important factors in determining the classification of a marketing institution is its key position in the marketing system in terms of incoming flows of materials (supply) and its outgoing movement to markets (demand).

Competitive Complexion

When cast in this framework, the physical distribution aspects of marketing take on a dynamically competitive complexion. Assuming the inconsistency of consumer demand, new developments in transportation, changing relative importance of markets, and a continual revolution in technology and products, effective marketing requires a continual assessment and revision of distribution alternatives. The fixity of channels of

The fixity of channels of distribution so easily assumed now becomes a dangerous practice for a firm to follow . . .

distribution so easily assumed now becomes a dangerous practice for a firm to follow in its marketing program. The diagram shows the physical distribution system of the gasoline market and its associated crude oil base. Immediately below that is shown a generalized picture of the principles derived from the petroleum industry applied to any marketing situation. The general marketing diagram does not show all of the possible alternative marketing channels and institutions. This is for the purpose of maintaining clarity in the exposition.

Note that there are two principles outlined in the selection of any alternative to a particular physical distribution problem for the petroleum industry. These are the engineering and economic requirements.

Physical market requirements in large measure pre-determine the engineering alternatives to a particular logistical problem. However, a number of possible engineering alternatives may be available for the solution of a particular movement problem. The selection of the proper engineering alternative in the particular case then largely becomes a question of economics. That particular engineering alternative will be chosen which yields lowest unit cost.

The pipeline problem is easier to solve than a general marketing problem in physical distribution. For example, the connecting link between the major producing areas and the dominant consuming areas in the petroleum industry almost invariably will involve a selection of different pipeline alternatives.

Many Choices

Comparing this with a more general case, the selection of the trunk line transport agency is complicated by the fact that pipelines are only one among many transport alternatives. Rails, motor carriers, parcel post, water carriers, air lines, railway express, freight forwarders, and others may be used.

However, the engineering factors of some of these limit their selection in specific instances. One does not, for example, ship iron ore in commercial quantities via air freight.

In any particular case, some of the alternatives can be eliminated readily on engineering grounds. Once these obvious eliminations are made, a more sophisticated economic analysis must be made involving the others. An example of this type of analysis can be found in the field of inventory and its cost.

Assume that a particular industry has a daily inventory cost in movement of \$1000 for every \$1 million of inventory. Let us further assume that four alternative systems of physical distribution meet all engineering requirements for the movement involved.

System A results in an inventory in process of one day. For

Clearly, the old-fashioned concept of minimizing the transportation rate provides, at best, control over only one segment of the entire pattern of distributive costs.

B it is two days; C three days; and D four days. The associated inventory expense for each then will be \$1000 for A, \$2000 for B, \$3000 for C, and \$4000 for D.

If inventory costs were the only costs involved, alternative A would be the most logical choice. In effect, drawing on the pipeline illustration, system A in terms of inventory results in reducing the length of our trunk line pipe to one half of B, one third of C, and one fourth of D.

The impact of inventory expense on the final selection provides a clue to the framing of a proper approach to the solution of any general problem. That is, all costs for each alternative must be included if a properly designed system is to result. Clearly, the old-fashioned concept of minimizing the transportation rate provides, at best, control over only one segment of the entire pattern of distributive costs.

Fragmented Approach

Another interesting aspect of this diagrammatic presentation of the physical distribution concept is that it clearly shows the frag-

(Please Turn to Page 65)

PTC acts against federal fuel

Private Truck Council Annual Meeting elects Decker president, hears

NCREASES in federal gasoline taxes and the federal government's activity in the realm of automotive user taxation were strongly opposed by the membership of the Private Truck Council of America during its Annual Meeting recently.

In the belief that an "unfair burden" would fall on private carriers, the PTC moved to have the organizations which are drafting state laws make uniformity of regulations their goal especially in the case of proration license plates.

Distribution Management

Much pertinent information was gleaned from the several speakers who addressed the Council during its two days of meetings. A. W. Greene, editor of DISTRIBUTION AGE, spoke on the new distribution management concept and its effect on private fleet management.

Illuminating on the arrival of the distribution manager, Greene said, "The impact that this function created was one of utter amazement. He (the dm) cut clerical delay and red tape between the plant and the customer. He broke the log jam at the end of the production line—in fact, he controlled its speed and makeup.

"He redistributed stocks of finished goods, giving all customers low-cost, overnight service. His smooth, planned handling cut OS&Ds. Above all, he cut that third largest cost of doing business for his company. All this happened less than 10 years ago. It should have come into being at the same time as mass production. But despite this serious omission on the part of top management, mass distribution — under the di-

rection of the distribution manager — has arrived and made a permanent place for itself."

Explaining why the process took so long, Greene said, "One of the troubles was that, until recently, we had only to whistle out back and pick up a crew of laborers on an hour or day basis to load or unload freight cars and trucks, and to pile goods in the warehouse. Labor was so cheap that we never could make a good case for modern, efficient distribution techniques.

"Now we cannot afford manual labor . . . we've got to step up efficiency and cut costs."

Highway's Future

Highway transportation and its bright future was discussed by Arthur C. Butler, director, National Highway Users Conference. Butler told the PTC that the significance of highway transportation to the economy will rise. He predicted that in another 10 years "we may conservatively increase (a transport figure of about 20 per cent of landborne freight in intercity ton miles) by at least 25 per cent.

"Since trucks carry practically all the city freight, it may be expected to increase proportionately to the increase in the number of trucks, or approximately 45 per cent." Of costs. Butler said that by 1970, "we will be spending around \$45 billion annually for all things automotive including motor fuel, but not including service. This represents an increase of nearly \$16 billion over today's annual expenditure of \$29.3 billion. Today, highway users are paying around \$91/2 billion annually in special taxes. The trend indicates that, by

1970, they will be paying a whopping \$13 billion each year.

"That is," Butler clarified, "this is what highway taxes will be if present rates are continued. This will amount to \$108 per licensed driver, over and above taxes paid by everyone."

Container Standards

Speaking on containers and piggy-back and the shape of things to come was John J. Clutz, director of research, Pennsylvania Railroad. "The disappearance of so many earlier versions of containerization," he said, "cannot be taken to prove, as some have attempted to do, that the principle is wrong. Instead, there is every indication it was just a case of their being ahead of time

"The ASA Container Standardization Committee initial proposals, all for demountable truck body containers (have been released) for vote by the participating associations. While much work remains to be done, particularly with regard to handling and securing methods, it seems certain that there will soon be some initial standardization—at least to external dimensions."

Reciprocity

E. J. Amey, director, Reciprocity Program, American Association of Motor Vehicle Administrators, covered reciprocity and proration in his talk before the PTC. "Last summer," Amey said, "in cooperation with the trucking industry, AAMVA prepared a model Enabling Act which has been recommended to all jurisdictions for enactment in their laws and which has recently been proposed to the National Committee on Uniform

tax hikes

fuel tax opposition

Traffic Laws and Ordinances for inclusion in the Uniform Vehicle Code. This will provide a uniform law covering reciprocity and proration."

Amey urged the PTC membership to help "by working with your motor vehicle administrators and assisting in the introduction and the passage of legislation needed to achieve such uniformity. Meantime, we shall continue our efforts toward the extension of reciprocity where none now exists and to uniformity wherever possible."

Action from the Floor

Proposed changes in the regulations covering trucks in interstate commerce drew some criticism during the meeting. The criticism was discussed during a session addressed by Ernest G. Cox, Section of Motor Carrier Safety, Interstate Commerce Commission.

Cox explained that the proposals stem from mounting pressure on the ICC to tighten its regulation of trucks. He admitted that some of the proposals would probably be changed before they are ordered into effect and invited those truck operators in attendance to submit alternative proposals for regulations which they felt were unnecessarily severe.

Speaking from the floor was Henry T. Rittman who represented the Institute of Explosives. Rittman urged that the regulations covering the amount of time which an explosives truck driver may be "on duty" be stated so that the driver may proceed to a place of safety if he has been delayed and exceeds the driving time permitted under normal regulations.

The ICC's proposal to set a minimum of 12 hours "on duty" time

C. S. Decker Heads List of New PTC Officers

C. S. Decker (right), general traffic manager, Borden Co., New York, president.

Henry H. Lincoln, assistant manager—Sales Operating Department, Standard Brands, Inc., New York, Eastern vice president.

George D. Thompson, general manager—Traffic Division, J. P. Stevens and Co., Greensboro, N. C., Southeastern vice president.

George W. Magee, manager buildings and fleet services, Coca-Cola Bottling Co., Los Angeles, Western vice president.



Hugo Waninger, vice president, Anheuser-Busch, Inc., St. Louis, Central vice president.

Joseph M. Creed, American Bankers Association, Washington, D. C., treasurer.

for drivers also was criticised by delivery fleet operators. They remarked that delivery drivers often spend a good amount of their time executing functions other than driving. They feel that the limit handicaps their operations.

Robert M. Monahan, special assistant to the federal highway administrator, told a luncheon meeting of the private carriers that the Interstate Highway program, at present, and in the immediate future, must proceed at a reduced rate from that contemplated in the Federal-Aid Highway Act of 1956. Monahan described the cutback as relatively small and attributed it to the \$1.6 billion over-extension of the Highway Trust Fund.

"As matters stand now," he said, "we can appropriate \$2 billion for the program in 1962. However, it should be possible to appropriate \$2.4 billion to Interstate funds for that fiscal year if Congress either approves the President's higher gas tax proposal or authorizes some other way to raise the Trust Fund income."

Function Dispersal

A rapid dispersal of manufacturing, sales operations, and populations is causing new patterns in the handling and distribution of goods, Rodger H. Gilman, director of port development, Port of New York Authority, told the PTC.

Gilman said that new facilities to transfer cargo rapidly from ship to rail to truck will be required. Containerized freight in which a rail car or truck van functions as a container will be needed to provide the speed and flexibility required. He feels that if the challenge of future years is to be met, facilities "must be provided to accommodate the rubber-tired vehicles which have the flexibility to serve widespread markets.

"The location and aligment of these facilities must, to a certain extent, represent a revision in the thinking of highway planners in that the traditional radial highway network with highways fanning out from the central core can no longer meet the needs of widely dispersed urban areas. Emphasis must be placed on circumferential, peripheral, and inter-suburban highways in order to move people and goods among suburban concentrations of population and industry."



NEW PRODUCTS

. FOR FURTHER INFORMATION

Operatorless Stencil Cutter

A stencil machine which will cut shipping stencils without an operator is available from Marsh Stencil Machine Co. It is all made possible by means of punched tape. The system



is adaptable for various size stencil machines: ½, ½, ½, ¾, 1 in. Stencil marking shipments is recognized by the carriers as the safest method, according to the manufacturer, of marking goods with addresses which meet Marking Rule 6.

Circle 35 on Card, Facing Page 51

Corrugated Pallet Frame

A versatile paper pallet suitable for transportation and storage with four-way entry is being introduced by Marso Pallets, Inc. The frame pallet is of expandable corrugated paperboard with four-way entry with improved leg structure. The frame tray is identical in design with the frame pallet. It has a skirt around the deck which makes the deck rigid and self-contained. With it you have a foundation for unitizing and protecting goods placed in its boundaries. The frame pack uses the tray as a base, receives a sleeve within its skirt and is topped by a telescoping cover. An additional bottom liner can be supplied. Tray and pack will be manufactured to consumer's specific requirements.

Circle 36 on Card, Facing Page 51

Drop Forged Load Binders

All the strength and safety factors of drop forged metal parts are present in a new line of load binders an-



nounced by Canton Mfg. Co. Hot drop forging and precise heat treating of each part increases safety in load transport and manual operation.

Circle 37 on Card, Facing Page 51

Drum Filling Covers

Dangerous and costly spillage can now be avoided with the advent of a new polyethylene drum filling cover manufactured by Delaware Barrel and



Drum Co., Inc. This lightweight, corrosion-proof cover is available in 15, 30, and 55-gal sizes and fits standard fill lines on steel, fibre, and polyethylene drums. This unit also helps you protect shipping drums.

Circle 38 on Card, Facing Page 51

Single Truck Tire

A new single truck tire replaces duals on tractor-trailer rigs. Developed by the Firestone Tire and Rubber Co., the new tire is nearly twice as wide as a conventional truck tire. Its load-carrying capacity ex-



ceeds that of the two tires it replaces. The tire with rim assembly weighs 286 lb compared to 410 lb for equal set-ups. Sidewall damage caused by rocks wedged between duals is eliminated as is overloading caused when the load is shifted from one tire to the other as the vehicle rolls over irregular surfaces.

Circle 39 on Card, Facing Page 51

Towing Tractor

The new 750-lb towing tractor made by Northwestern Motor Co. has a 4-hp gasoline engine which develops 630-lb drawbar pull. The tractor is



available with a 7-hp engine, too. With it, you get 100-lb drawbar pull. Low center of gravity and compactness permit the tractor to turn on a8-in. radius. Speed and braking action are actuated by foot pedals.

Circle 40 on Card, Facing Page 51

and EQUIPMENT

PLEASE USE READERS' SERVICE CARD . . PAGE 51

Magnesium Dockboard

Materials handling operations can be lightened and speeded with this new strong magnesium dockboard developed by White Metal Rolling and Stamping Corp. The dockboard's longwearing, non-skid corrugated trailertype floor is made of integrally stiff-



ened extruded interlocking sections. Toe sections are replaceable. Four long spacers are easily adjusted for complete stability in a wide range of applications.

Circle 41 on Card, Facing Page 51

Durable Dock Fender

A giant tube of synthetic rubber is manufactured by the Goodyear Tire and Rubber Co. as a dock fender. The product enables pier designers to construct lighter, more streamlined struc-



tures at lower costs. The fender is 21-in, across the outside diameter and $10\frac{1}{2}\text{-in}$, on the inside diameter. For every foot pound of energy absorbed by the fender, a load of only 2.25 lb is transmitted to the dock or pier.

Circle 42 on Card, Facing Page 51

Fluorescent Safety Paint

High visibility colors in fluorescent paint can be used strategically throughout industrial buildings as a strong visual deterrent to accidents which occur when the mind becomes



lulled by long term repetitive action. Lawter Chemicals, Inc., makes four safety colors to be used on fire protection apparatus, emergency stops on machines, flammable liquid containers. Two colors are recommended for low beams, tractors, lift trucks.

Circle 43 on Card, Facing Page 51

New Straddle Carrier

New medium-capacity straddle carrier is being introduced by Hyster Co. It handles loads up to 20,000 lb. Road speed hits 52 mph for profitable ma-



terials handling. Dual-coil spring, independent suspension system with hydraulic shock absorbers on each wheel give a smooth ride. Also good stability of load for spotting. Power brakes are standard. Special drive sprockets are optional.

Circle 44 on Card, Facing Page 51

Over-the-Highway Tractors

The Reo Division of the White Motor Co. has added a 90-in. bumper-to-back-of-cab series to its line of over-the-highway tractors. Forty foot full square trailers can be hauled in states with 50-ft overall length limits. The series consists of gross vehicle



weights starting at 33,000 lb and gross combination weights up to 55,000 lb. Engines are tilted 15 deg to the right for increased driver room in the cab.

Circle 45 on Card, Facing Page 51

Platform Walkie

A special high-capacity, high-lift walkie with capacities up to 19,000 lb is available from Lewis-Shepard Products, Inc. It is designed to solve



high capacity handling problems in limited maneuvering areas. It handles applications in which heavy-duty fork-lift trucks cannot ordinarily fit.

Circle 46 on Card, Facing Page 51 (Please Turn Page)

New Products and Equipment

(Continued from Preceding Page)

Grooved Wheel Casters

Nutting Truck and Caster Co. is now manufacturing "V" grooved wheel casters for operation on inverted angle iron track serving mechanized production lines and "blind

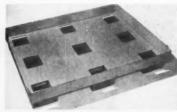


alley" operations. The casters also are recommended for conventional onthe-floor operations when floors are extremely uneven and pitted or cluttered. Capacity payload handled is 750 lb.

Circle 47 on Card, Facing Page 51

Lined Wooden Pallets

A development which extends the life of wooden pallets is epoxy-glass. Splintered wood projections and rough edges which tear packaging films are eliminated through a protective overlay of glass cloth and epoxy resins. In practice, a special fluid and im-





pregnating grade of epoxy is combined with an appropriate safety hardener and the combination brushed on glass tape surfacing the wooden pallet strips. When applied to existing wooden pallets, it is desirable to economize in the use of materials, and apply only to those areas showing ruptures or breaks. Furane Plastics is the manufacturer.

Circle 48 on Card, Facing Page 51

Compact Postage Meter

A new compact postage meter is being introduced by Pitney-Bowes, Inc. It is the first desk model mailing machine to seal, stamp, and stack letters in one operation. A principal advantage of the new meter is its wide range of stamp values. Fingertip selection of postage denomination from ½ cent to \$1.09½ is possible. Meter stamp can be printed directly

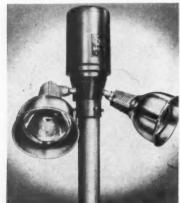


on letters or gummed tape for parcel post packages. The envelope stacker, which is standard equipment, holds 40 letters. There is space for a 2-in. postmark advertisement or public service message.

Circle 49 on Card, Facing Page 51

Mercury Vapor Floodlight

The new mercury vapor floodlight just announced by Stonco Electric Products Co. features a full-floating



socket construction that adjusts automatically to variations in lamp sizes and shapes. All this insures a perfect weather-seal with all makes of R-60 reflector lamps.

Circle 50 on Card, Facing Page 51

Sisalana Rope

A new 100 per cent Sisalana rope which is 20 per cent stronger than previous sisal ropes is offered by Columbian Rope Co. On the average, it is as strong as Federal Specification TR-605 for Manila. The breaking strength in pounds of the new sisal varies from 450 to 5400 lb and its working strength from 90 to 1080 lb.

Circle 51 on Card, Facing Page 51

Dry Chemical Extinguisher

American LaFrance has a compact fire extinguisher for protection of flammable (Class B) and electrical (Class C) risks. Designed for speedy one-hand operation, the extinguisher has the same fire killing ability as



eight 1½-qt vaporizing liquid extinguishers. When the handles are squeezed together, a penetrating cloud of especially-prepared dry chemical is expelled under pressure to instantly smother a blaze. The extinguisher requires no servicing unless used.

Circle 52 on Card, Facing Page 51



For prompt service, use postage - free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material is FREE unless otherwise noted.

Dual Pneumatic Lift Truck

A dual pneumatic electric fork-lift truck for outside work is announced



by The Heifred Corp. The truck has a battery capacity up to 720 amp hrs and handles 2000-lb loads over an 8-hr shift on rough terrain.

Circle 53 on Card, Facing Page 51

Abrasive-Resisting Tire

Notat Tire Co. has developed a new abrasive-resistant tire which is unaffected by running over sharp brick, rock, nails, glass, scrap iron, or steel



chips. The tire has no tube or air chamber to be punctured, yet it has the resiliency to "give" and rides smooth. The tire can be installed on all fork-lift trucks, front-end loaders, towing tractors, and cranes.

Circle 54 on Card, Facing Page 51

One-Man Scoop

The Lansing Co. announces its new fabricated scoop truck. The truck allows one man to handle bulky goods



such as apples and grain and is used in storage plants to handle bulky merchandise. Two wheels are centered under the scoop which holds a 3-bu load.

Circle 55 on Card, Facing Page 51

Tilt-Cab-Beside-Engine

Kenworth Motor Truck's new cabbeside-engine design is being produced in tilt-cab version. By means of a hand-actuated hydraulic ram, the entire cab is moved up and forward of the engine to permit free access to the



engine and truck operating controls. There are positive locking devices in all tilted and driving positions. Much heat and noise is removed to increase driver comfort, since the cab is separate from the engine compartment.

Circle 56 on Card, Facing Page 51

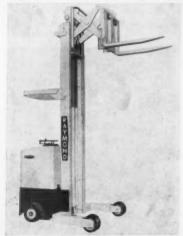
Colored Stencil Inks

Five fast-drying colored stencil inks are a part of the new Bostitch, Inc., Stencil-matic line. They are for use on metal or porous surfaces. The new colors are red, blue, yellow, white, and green.

Circle 57 on Card, Facing Page 51

Narrow-Aisle Truck

The Raymond Corp.'s heavy-duty narrow aisle electric truck is now offered with a single drive wheel and offset caster. This supplements the original model. The single-wheel



drive enables the company to present both trucks designed for continuous operation handling loads up to 4000 lb. Hydraulic lift is driven by an 8hp motor operating from the 24-volt battery which powers the truck. Loads can be lifted 20 ft continuously without overheating.

Circle 58 on Card, Facing Page 51

Shockless Pintle Hook

A shockless pintle hook for highway trailers is now available from Utility Steel Foundry for double-bottom operations. The hooks are easy to install and eliminate rattling, banging, and coupler bar eye wear.

Circle 59 on Card, Facing Page 51

Rail Car Loading System

A railway car load protecting system which can be operated by one man is available from the Sparton Corp. The standard system is composed of a series of 7, 8, 9 or more steel belts mounted flush with the inside walls of a railway car. The number of belts can be adjusted to





fit the need depending on the type of service in which the car is to be used. The belts have slotted grooves 1 in. apart. Crossmembers are extended across the width of the car and snug fitted into the channels to lock loads firmly in place. There are removable side rails which fit into T-slots on vertical channels fixed into position during car construction. The side rails can be adjusted to any level to fit a load or they can be removed and stored when the car is being used for bulk loading.

Circle 60 on Card, Facing Page 51

Diesel Fuel Additive

The Shaler Co. has developed a diesel fuel additive to counteract resinous sludge, gum, and varnish present in diesel fuels. The additive is specially formulated as a detergent, dispersant, and solvent to aid in elimination of sludge formations in the fuel supply line.

Circle 61 on Card, Facing Page 51 (Please Turn Page)

New Products and Equipment

(Continued from Preceding Page)

Shelf Battery Charger

The usefulness of this Exide Industrial Division silicon-rectifier battery charger is increased by a \$2.50 shelf bracket. Instead of being mounted on the tray cover of the in-



dustrial truck battery, the unit can now be used to charge several batteries successively. The high-capacity charger can be used safely on lowercapacity batteries to achieve increased charging speed.

Circle 62 on Card, Facing Page 51

Highway Tractors

Production has begun on an improved line of International Harvester Co. diesel-powered highway tractors with gross combination weight ratings up to 79,000 lb. A choice of 54,



72, or 80-in. cabs is available. Nine Cummins diesel engines ranging from 170 to 335 hp are available. Aluminum has replaced steel in steering gear cases, engine mounting brackets, cab hinge brackets, and battery boxes.

Circle 63 on Card, Facing Page 51

Padded Shipping Bag

New padded shipping bag from Jiffy Manufacturing Co. has a tear tape opener. It's the company's first general-use stock packaging material equipped with a built-in opening de-



vice. The tear tape opener makes unpacking as easy as packing. Position of the bag's seam allows more printing area than was previously possible. The seam is secured by a waterproof adhesive.

Circle 64 on Card, Facing Page 51

Remote Controlled Tractor

Barrett-Cravens Co. offers this remote controlled tractor which responds to signals received from a small transmitter box strapped at the operator's side. The tractor starts, stops, turns left or right by the use of pushbuttons. It is ideally suited for use in warehouse where



order picking is the major activity. The unit, called Radox, is supplementing and replacing manually-operated rider tractor systems which require two men-the tractor operator and a stock selector who loads the trailers. With this new control, one man can pick the required items, load them on the trailers and, from a distance, operate the tractor without going near it.

Circle 65 on Card, Facing Page 51

Rider-Walkie Truck

To facilitate handling and stacking of heavier loads in intermittent duty cycle operations. Yale Materials Handling Division has developed a riderwalkie electric lift truck. The payload capacity of the new truck is 4000 lb. Its mast is made of nested



I-beam sections with extra-thick, %in. flanges for long wear. The interlocking design permits mounting widely spaced channel rollers parallel to the web of the beam so all pressures are taken on the strongest roller dimension and scrubbing action is eliminated. Ten side thrust rollers resist any off center loading to which the truck may be subjected.

Circle 66 on Card, Facing Page 51

Tire for Heavy Trucks

New tire for heavy trucks comes from McCreary Tire and Rubber Co. in either nylon or rayon for high speeds on long runs. The rubber is specially compounded to provide ex-



tra-long mileage on the original tread. The extra-tough natural rubber compound makes repeated retreading safely possible. The road-gripping tread allows new traction for more positive drive and surer stops.

Circle 67 on Card, Facing Page 51

Free-Rolling Wheel

The Palmer Manufacturing Co. makes a free-rolling wheel in standard 14 and 16-in. sizes. The wheels are fitted with a solid tire molded



from a special rubber compound. In tests, a small truck loaded with 4000 lb of lead with ordinary wheels required three men to move it. With free rolling wheels, the same load was easily moved by a 50-lb, 10-year-old boy.

Circle 68 on Card, Facing Page 51

Anti-Corrosion Conveyor

An acetal resin is now incorporated in conveyors produced by The Rapids-Standard Co. as part of its new corrosion-resistant conveyor line. A ring of the resin replaces conventional



steel balls in aluminum gravity conveyor wheels. The aluminum used in the gravity conveyor wheels having bearings made of the resin is a special salt-water resistant alloy. The whole wheel assembly is corrosion resistant.

Circle 69 on Card, Facing Page 51

Four-Wheeled Floor Jacks

Changing dimensions and jack operator demands are responsible for this redesigned line of Blackhawk



Automotive Division floor jacks. The new jacks have respective lifting capacities of 14, 14, 2, and 4 tons. Rear swivel casters have been widened.

Circle 70 on Card, Facing Page 51

Literature from the Advertisements

Listed below are brief descriptions of catalogs, brochures, booklets and other literature offered by advertisers in this issue of DISTRIBUTION AGE. To get your copies of the items offered, simply circle the appropriate number on the Reader Service Card, facing Page 51.

Coil Manipulator Attachment

Connector bar attaches new coil ma-nipulator to your fork truck. It guards coil edges, saves handling time. Clamp adjusts quickly to any size coil. Allied Manufacturing and Sales Co, has the facts. Circle No. 4.

Essentials of Fire Protection

American District Telegraph Co. systems guard against fire, burglary, other hazards. You get a scientifically-engineered system with complete maintenance by trained technicians in principal cities. Circle No. 7.

Gas-Operated Lift Trucks

Automatic's new gas-operated truck has an engine and voltage generator precisely matched for peak power—and there's no clutch or torque converter. Learn more about this cost-cutting truck. Circle No. 13.

Metal-Paneled Prefab Warehouse

Butler Manufacturing Co. makes a pre-fabricated, weather-tough warehouse to stand up under the most corrosive ele-ments. The colorful panels interlock tight-ly for complete protection and strength. Circle No. 3.

New U.S. Railroad Map for You

There is a copy of the Chesapeake and Ohio's new U. S. railroad map reserved for you. Also available is complete information on the road's 5100-mile transportation plant. Circle No. 14.

Hydraulic Pallet Truck

Colson Corp. starts with the first essential—mobility—and begins building its quality pallet trucks from wheels and casters to tip of handle. A total unit for complete performance. Circle No. 2.

High-Speed Lift Truck

Short turning, high speed, and safety are some of the plus-factors you get with the new Cargo Scout lift truck by Elwell-Parker Electric Co. New catalog shows 2000, 3000, 4000, and 5000-lb capacity models. Circle No. 10.

Adjustable Lip on Dockboard

Kelley Co., Inc., has a free kit which helps you plan a profitable dock opera-tion with its adjust-a-lip dockboards. They adjust six ways-mechanically, plus tilt to right or left. Circle No. 8.

Cab-Forward, Conventional Trucks

Mack makes both cab-forward and conventional trucks for economical haul-ing on your workaday jobs with balanced design throughout. Latest information, now available. Circle No. 6.

Dock Board Cuts Loading Costs

Dock boards by Magline push down your loading costs as they eliminate congestion. They are magnesium for easy lift and carry, but hold up to 20,000 lb. Circle No. 11.

Hand Trucks, Ramps, Pallets

Handling ease is built into these hand trucks, ramps, and pallets from Magnesium Co. of America—they are illustrated and described in new literature. Circle

Handle Grip Control for Walkie

Walkies and many small rider model trucks by Moto-Truc Co. have roller grip control. Operator twists handle to vary speed, pushes end buttons to control direction. It's a new feature. Get the facts. Circle No. 1.

Recording Thermometer

The recording thermometer by Pacific Transducer Corp. uses a dry stylus. There is no ink to spill, run, or freeze. Four temperature ranges are available. Circle No. 12.

New Veneer for Boxes

The Silvatek Division of Weyerhaeuser Co. is introducing Ply-Veneer for boxes. It consists of a veneer core overlaid with kraft or white facings. Panels are available in ½ to ½ thicknesses. Full facts available. Circle No. 5.

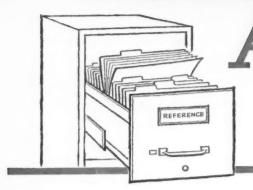
Mobile Floor Crane

This new mobile floor crane is being introduced by the Colson Corp., as a completely counterbalanced crane with adjustable boom and hook. The boom reaches as far as 6 ft beyond the front edge of the unit. Capable of moving in four directions, the boom lifts and positions loads as heavy as 5000 lb. The power-actuated boom can be lowered to 11/2 ft and raised to

Circle 16 on Card, Facing Page 51



DISTRIBUTION



IDS

- Catalogs
- Specifications
- Directories
- Case Studies
- Reports

Mobile Dock System

Magline, Inc., has an engineering bulletin which details the development and expansion of its line of mobile loading ramps into a completely integrated system of ground-level loading for plant-wide shipping and receiving. Typical problems handled in the bulletin include ground-level plants, plants with limited dock facilities, scattered buildings with one central dock area, and outlying railear loading.

Circle 71 on Card, Facing Page 51

DSI Warehouse Directory

Distribution Service, Inc., has just released its 1960 directory of member warehouses. The 32-page directory contains pertinent information on facilities at 39 member warehouse points.

Circle 72 on Card, Facing Page 51

Pneumatic-Tired Fork Truck

Pneumatic-tired, gasoline-powered fork-lift trucks with 3000 and 4000-lb capacities are described in two new bulletins available from Baker Industrial Trucks Division of Otis Elevator Co. The bulletins introduce the trucks designed for rugged indoor-outdoor work. Compact design, high ground clearance, oscillating rear axle, and power steering are a few of the truck features.

Circle 73 on Card, Facing Page 51

Plastic M-H Containers

The many forms of plastic trays which can be effectively incorporated in your materials handling system are shown in new literature from Regal Plastics Co. Presented in folder form with a pocket holding illustrations of the trays, the literature shows that many of the containers are moulded to accommodate dividers, others have been designed for food packaging and freezer transport use.

Circle 74 on Card, Facing Page 51

IDP Service Centers

How Univac service centers, manned by Remington Rand, are solving management problems for business concerns throughout the country is the subject of an illustrated 6-page folder just released. Even the smallest firm can enjoy the advantages of machine accounting without investment, rental, and staff problems.

Circle 75 on Card, Facing Page 51

Copy Machine Comparator

A convenient slide rule comparator just released gives complete details on office copying machines made by ten manufacturers. Minnesota Mining and Mfg. Co. has designed the rule to aid prospective purchasers in their selection of copy equipment. Machine and paper costs, copying processes, number of copies available per minute, and processing steps are charted.

Circle 76 on Card, Facing Page 51

Yard Planning Kit

By reproducing his yard in miniature, the lumber dealer can plan its layout for most efficient handling and operation. Die-cut pieces representing standard items or package sizes handled in a retail or wholesale yard, and industrial trucks commonly used in lumber yards, are included in this kit. All of the miniature elements are to scale. It is offered by Hyster Co.

Circle 78 on Card, Facing Page 51

Highway Hazard Warner

A pocket-sized planner from R. E. Dietz Co. helps layout adequate road-side warning devices along household moving operations and construction sites where traffic flow may be hindered. The gage is similar to a slide rule. By sliding the inner card through the outer card you can see every factor governing the placement of signs, flags, cones, or barricades and flashers.

Circle 79 on Card, Facing Page 51

Grocery Warehousing Study

Lewis-Shepard is offering a special application analysis on grocery warehousing equipment and techniques. It covers warehouse sizes, aisle widths, types of racks and pallets used in them. Order selection methods are discussed and the different types of materials handling equipment that can be used with each method. The equipment described ranges from high stacking narrow aisle rider-type trucks to tractors, trailers, and dragline carts.

Circle 80 on Card, Facing Page 51

Lift, Ramp Installations

Globe Hoist Co. has released another of its "Lift" brochures and this new one concerns a lift which is used by an ice cream company to move its product from van to freezer quickly.

Circle 81 on Card, Facing Page 51

Liquid Cargo Transportation

Seaboard Shipping Corp. specializes in liquid cargo transportation and offers service in inland waterways, Atlantic Seaboard, Great Lakes, St. Lawrence Seaway, New York Harbor, and Western Rivers System. A 6-page flyer explains the service available to you if you must move chemical products, petroleum, or vegetable oils. Circle 82 on Card, Facing Page 51

Hot-Box Detector

An eight-page bulletin form General Electric discusses the company's new hot-box detector for automatic, instantaneous pin-pointing of overheated journals on railroad cars traveling up to 60 mph under all weather conditions. Diagrams and photographs show system components, various installations, and just how the system works. The bulletin shows how carrier-current equipment adds a new dimension to remote inspection of journals at any point away from the trackside location of the detector.

Circle 83 on Card, Facing Page 51

For prompt service, use the postage-free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material on these pages is FREE unless otherwise noted.

Motive Power Charging

Installation and use of Exide Industrial Division's new MP-3 charge control unit are described in a bulletin now available. The control is easily connected and mounted on a charger or wall and helps to insure a fully-charged battery for peak performance. The danger of over-charging is eliminated, the literature states. Instructions and diagrams are featured along with schematic charts to illustrate typical uses.

Circle 84 on Card, Facing Page 51

Portable Winch-Hoist

The Lug-All Co. has completed literature on its new portable winch-hoist. It has a rated capacity of 1000 lb. The hoist holds 133 strand aircraft cable and weighs 7 lb. All of the cable is held on the drum.

Circle 85 on Card, Facing Page 51

New Freight Train

Direct rail service to New York and New England is an addition to the New York Central System's Flexi-Van Service. New schedules have been incorporated into a flyer from the railroad which explains the new service from St. Louis to New York City. The new freight train, called the So' Westerner, departs from St. Louis at 6:30 pm at the close of the business day and arrives in New York at 7 am in time for second morning deliveries.

Circle 86 on Card. Facing Page 51

Load Cell Weighing System

Motor truck scales, railroad track scales, automatic batching, check-weight scales, tank and hopper scales, along with crane-hook scales are the main points of interest in the Howe Scale Co. booklet just issued. Advantages of the system are frictionless operation, space and cost savings, and rugged construction to allow cross-loading.

Circle 87 on Card, Facing Page 51

Aluminum Roof Coatings

Application details and specifications on its new line of aluminum roof coatings take up the main part of an eight-page brochure from The Garland Co. According to the manufacturer, the roof coatings, which are reinforced with fiberglas, increase roof projection, keep interior of the building cool, and have adhesive qualities. The coatings are recommended as weatherproof coatings and building coolants over new or old roofs of felt, composition, corrugated, or metai.

Circle 88 on Card, Facing Page 51

Bulk Sugar Handling

A brochure from Tote System, Inc., shows how Burry Biscuit Co. saved \$60,000 a year with the installation of a bulk handling system.

Circle 89 on Card, Facing Page 51

BOOKS

Two-Way Radio Aid

People active in the communications phase of warehousing and materials handling will be interested in the recently released Electronic Spectrum Chart for 1960. The chart gives FCC frequency allocations for all communication frequencies and has significant interest to operators of two-way radio installations. The new chart also shows the various types of electronic services such as radio and tv broadcasting, radar, sonar, ultrasonics, etc., that are employed at the different frequencies (0-100,000 megacycles) of the electronic spectrum.

Printed in six colors for easy identification and follow-through, the 29 x 22-in. chart is available from The Editor, DISTRIBUTION AGE, 56th and Chestnut Sts., Philadelphia 39, Pa. Price: \$1.00.

Cotton Warehouse Design

Designing a public warehouse for the storage of flat cotton bales is the topic of a new book from the Agricultural Marketing Service of the U. S. Department of Agriculture. Includes the shortcomings in existing cotton storage compartments and warehouses, layouts for cotton warehouses, and structural details. Many of the diagrams are of fold-out design and can be removed from the book at a later date should you desire it. Estimated costs are provided too.

The book is entitled "Designing a Public Warehouse for Storing Flat Bales of Cotton," available from the U. S. Government Printing Office, Washington 25, D. C. Price: \$1.





Screw Conveyors, Feeders

A catalog devoted to the applications and selection of screw conveyors, screw feeders, and components is offered by Link-Belt Co. The 76-page production illustrates over 20 types of screws, 14 types of troughs, five types of discharge openings and two types of feeders. The catalog shows how screw conveyors are used for conveying and elevating, distributing, reclaiming, collecting, mixing, blending, agitating, aerating, heating, and cooling materials. Also included is a list of materials with which the conveyors can be used.

Circle 90 on Card, Facing Page 51

Industrial Safety Book

New from the safety library of the National Safety Council is a 16-page offering which asks the pertinent question, "Who gets hurt in industrial accidents?" The answers are presented in multi-color cartoon form. The book's humor holds attention, lessens a tendency to preach, and gets the point of safety first and always across to the reader—your employe. Circle 91 on Card, Facing Page 51

New Parcel Post Rate Chart

Parcel post rates increased recently and if you are following past rates your over-postage losses may be 17 per cent extra. Every time your mailroom over-stamps a package you throw money away. With this new postage meter by Detecto Scales, Inc., you simply place package on the scale, punch down the proper zone key, and there's the correct postage. Only one figure is shown, magnified, and illuminated. Literature from the company includes a conversion chart which gives all new rates until your present scales are converted.

Circle 92 on Card, Facing Page 51

Car Shaker Leaflet

Advantages of the 3½-ton car shaker made by Allis-Chalmers Manufacturing Co. for fast, safe, and economical pushbutton unloading of granular material from open, hopper bottom gondola cars are part of a new leaflet from the company. The shaker is designed for operations where unloading of hopper-bottom cars does not warrant installation of the usual 5-ton unit and where smaller capital investment is desirable.

Circle 93 on Card, Facing Page 51

All about hand trucks

Even long-established operations may be improved through a

POR SOME planners, the solution of any hauling problem is mechanization of the operation.

In fact, there are many situations where powered equipment cannot be justified on an economic basis. Of course there is a practical limit to the use of manually propelled machines. Actually there are several such limits. They may be determined by the physical capacity of men to push and pull loads. Fatigue produced by hauling over travel distances is another limiting factor. The repetitive nature of the work also enters the picture.

Practical Viewpoint

Theoretical values have been de-

veloped for these factors. However, elements in everyday practice affect the figures adversely.

In many instances, hand trucking operations have been in use so long that they have reached a routine stage; in the course of time, bad practices have been allowed to creep in.

Before condemning a given setup as one to be discarded and replaced by mechanized handling, the sensible thing to do is to look at the various critical elements involved with the view of correcting those which are faulty.

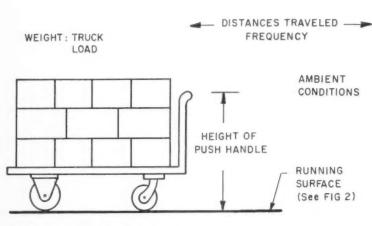
A materials handling consultant observes the same kinds of operations performed under dissimilar conditions. In time he comes to be on the lookout for certain faults, because he has found them so often. The factors discussed here are those which experience has shown to be quite common in hand trucking setups.

After studying the elements which have an adverse effect on such operations, we will be able to arrive at certain numerical values for optimum manual trucking performance. For convenience we shall break the problem down into discussions of the following elements: The truck and its load; the running surfaces; ambient conditions; travel distances and frequencies. Obviously, there are interrelationships between these elements. They will be pointed out as we discuss each.

The Truck and Its Load

Weight is a factor which affects practically every phase of truck handling. In a sense the weight of the truck is determined by the load it is to carry; the running gear of the truck has to support the weight of the vehicle and the load. But in the last analysis, it is the amount of weight which a man can push or pull under given conditions that limits the load and hence the required capacity for the truck. This all sounds very much like the old conundrum about the chicken and the egg!

Studies conducted both here and abroad confirm what many of us have learned from everyday experience—it is easier to push a load than to pull it. Fortunately,



WHEELS & CASTERS : TYPE

TREAD WIDTH DIAMETER BEARING LUBRICATION

FIGURE 1 - FACTORS IN HAND TRUCK OPERATIONS

EDITOR'S NOTE: The two graphs used in connection with this article and other valuable reference data for users of hand trucks can be found in "The Caster and Floor Truck Engineering and Purchasing Planbook." Copies of this 120-page book are available from the Caster and Floor Truck Manufacturers' Association. 27 E, Monroe St., Chicago 3, III. Cost is \$3.75.

By D. O. Haynes DA Materials Handling Consultant

careful study

most types of hand trucks can be pushed—two-wheelers and certain platform trucks, for example. On the other hand those fitted with fifth-wheel steer are normally pulled.

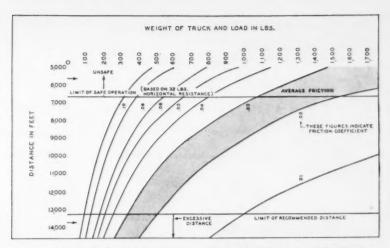
Pull vs. Push

Sometimes men acquire the habit of pulling trucks which should be pushed and any such condition found should be corrected. Later in this article, when we take up specific figures, the question of how high a push handle should be above the ground will be covered with definite recommendations.

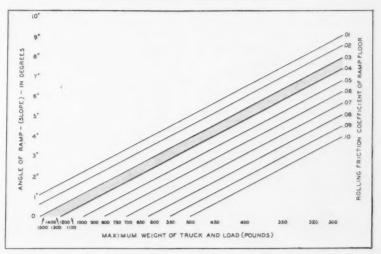
Running gear is the feature of truck construction which is usually most susceptible to improvement. The type of wheel (material of the tread), the width of the tread, and the wheel diameter are critical factors. Marked advances have been made in the last few years which have resulted in many new kinds of materials for industrial truck wheels. Particularly important has been the introduction of various plastic wheels. There is a good chance that wheels now available are better suited to a truck than those provided as original equipment.

One can generalize by saying that the ideal setup is a hard wheel on a hard surface—an arrangement that makes for easiest starting and rolling when traveling. However, a hard wheel is difficult to start over even a slight obstruction on the floor. Hard wheels on a soft floor make a bad combination for both starting and rolling effort.

On the other hand, soft wheels increase rolling resistance on hard



A truck of 100 lb (total weight—truck plus load) can be pushed 7000 fph when the friction coefficient is approximately .03. A rolling friction coefficient of .04, however, reduces this distance to 5700 ft. This point of the graph is in the unsafe zone, indicating that the horizontal pushing resistance exceeds the recommended 32 lb (limit of safe operation). The second horizontal line indicates the limit of recommended maximum distance that a trucker should cover in one hour.



The weight of the truck is 150 lb. Rolls of paper at 600 lb must be transported on a ramp. What must the physical properties of this ramp be?

The total weight of truck and load is 750 lb. The following combinations of angles and friction coefficients can be found in the graph.

Angle of Ramp	Floor Friction Coefficient
1 deg	0.05
1.5 "	0.04
2.1 "	0.03
2.7 "	0.02
3.2 "	0.01
A slope of only 2 deg will be the most p	ractical for a one-man truck

floor, so that even though such a setup is kind to floor surfaces it is secured at the expense of increased pushing effort. Of course, the tread width influences the pushing effort and the amount of wear of the floor surface. Many special

operation under the above mentioned conditions.

types of spring-mounted wheels are now on the market which offer the smooth ride of soft wheels over obstacles and lessen the jolts to loads and equipment.

It is axiomatic that the larger (Please Turn Page)

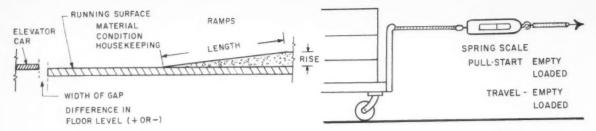


FIGURE 2 - POINTS TO CHECK - RUNNING SURFACES

FIGURE 3 - HOW MUCH DRAWBAR PULL ?

... Hand trucks

(Continued from Preceding Page)

the diameter of the wheel the easier it is to push. All things being equal there is a well established relationship which exists between the frictional resistance to the rolling of a wheel and its radius (or diameter). This resistance is inversely proportional to the radius (or diameter).

The effect of changing the wheels on trucks is illustrated by an experience in a warehouse where order pickers were assembling shipments of boxed sweaters. The men found that it was very tiring to push their loaded trucks even though they carried only about 750 The wheels on these trucks were rubber-tired with 3-in. diameters. When the same type of wheels with 5-in. diameters were tried out, one of the men saidperhaps with slight exaggeration-"Why I can push the truck with my little finger!" An investment of \$9 a truck made everybody happy. More over, it reduced fatigue.

The bearings used in wheels are important in hand truck operations. But regardless of the type of bearing, the most efficient cannot function properly without correct lubrication.

The floor men in a cold storage plant complained bitterly about the difficulty they had in pushing loaded six-wheelers. When one of the wheels was removed and the plain bearing examined, it was found that the grease had dried to a brown powder. A regular greasing schedule for all trucks was an effective solution.

Incidentally, the correct lubricant is essential for satisfactory results. When the lubricant is too thin it very quickly runs out of the bearing. Truck manufacturers will recommend the right type of lubricant for their trucks; their suggestions along these lines should be followed for best performance.

The Running Surfaces

As we have seen, the running gear must be correct for the surface over which it is to operate. But both maintenance and house-keeping play important roles in trucking operations. The proper repair and upkeep of industrial floors is such a broad subject that it cannot be covered in detail here. However, in a future issue we will publish an article devoted to all phases of floor maintenance and housekeeping.

In some buildings there is a gap between the floor of the structure and the floor of the car. Unless sufficiently large wheels are used in trucks using the facility, loads are jolted and the truck subjected to undue strains. Where there is a difference in level between the two surfaces, every effort should be made to have the elevator adjusted so that it will stop at the correct level.

Ramps present two difficulties. Trucking heavy loads on long down-slanting surfaces is a fatiguing operation. I know of no studies made on this phase of hand-truck operations, but down trips should be avoided wherever possible, even



Eastern style 2-wheel truck has tapered frame, wheels outside



Western style hand truck has parallel frame, wheels inside

if rerouting is necessary. There is more data on up trips. It has been determined that trips up ramps, compared with the effort required to push a loaded truck on the level, call for 1 per cent of the weight of the truck and its load for each 1 per cent of grade over the effort on the horizontal run.

Ambient Conditions

Normally we do not have very much control over temperatures and other atmospheric conditions surrounding the work. The best we can do is to correct such factors as best we can. Sometimes our efforts along these lines prove to be futile.

In making studies on how to reduce wear of a freezer floor in a cold storage warehouse, it was (Please Turn to Page 66)

Railvan– a progress report

Latest facts on Railvan plus pictures of how it works make-up this progress report on the integrated transportation system born three years ago



Designed for fast service, packages are loaded for trip to Grand Rapids

THREE YEARS after Railvan's initial appearance on the integrated transportation scene it is still moving forward, this time with service between Detroit and Grand Rapids, Mich.

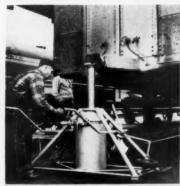
The vehicles can be operated as railroad cars and truck trailers. Their service includes handling mail and express between Grand Rapids and Petoskey, Mich., and between Grand Rapids and Traverse City on Chesapeake and Ohio passenger trains. The new run between Detroit covers 152 miles. Two Railvans make the trip daily except Sundays.

Railvan travels by rail to train terminals and then by highway to its final destination. The British plan to use the system too. ●



Highway tractor backs onto track to pickup van. Equipment on left is adapter car used between van and regular railcar. One end has standard coupling, other has special system. Top part swivels, whole car need not reverse later

Air jack raises Railvan to height suitable for tractor connections



Railroad car rolls onto pavement, headed for unloading and reloading at the express office, as Railvan moves through heavy downtown Detroit, Mich., traffic



New van line building plans



By Ralph Robert Knapp

Architect

T'S A SAFE bet that if top value for your construction dollar is to be gained, flexibility of daily operations, and expansion of future operations must be met in a way both efficient and functional.

These building essentials have been met in the new international headquarters of Atlas Van-Lines, Inc., which we will open this month in Evansville, Ind. From its conception, we designed the onestory, glass and pink Roman brick building so that it can be blown-up like a balloon as personnel and work space requirements increase.

Steel Frame

This is possible because we built a steel frame exposed to the exterior and then abutted brick and block walls to the frame. The walls can be remodeled, reworked, and removed without effect to the building's structure.

According to James C. Connell, general manager of the new head-quarters, these resources will centralize operations of some 300 agents in the U.S. and 10 foreign countries. The key principles of construction can be applied as solutions to your construction problems. The new home base also houses the communications center—the facility which plays such an important role in an organization

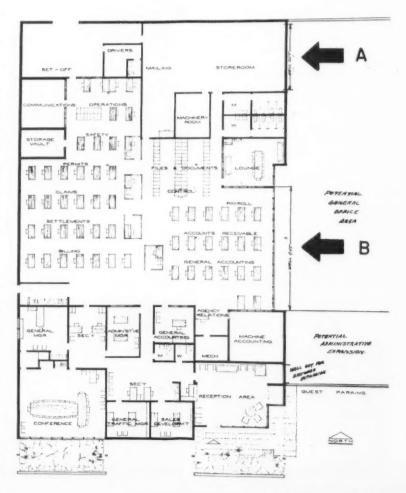
A and B on drawing show expansion areas. Glass wall on east side of general office can be removed and floor and ceiling continued into expansion of this kind. We designed the building with this function uppermost in our minds.

The communications room is in the north-west corner of the building, just off the operations area. For top speed and minimum handling, the safety, permit, claims, settlements, and billing departments are situated adjacent to the communications center.

In this way the sections requiring close coordination with each other and with communications operate at peak efficiency. The rest of the building follows this pattern for smooth work flow. The agency relations supervisor — he's on the east side of the building — faces general accounting, accounts receivable, and payroll. To the rear of this section is the file and documents section — the records control is here also.

Overall Plan

The overall plan put executive and administrative offices at the front, or south end, the general office in the middle, and a transit drivers' space and storeroom to the rear. On one side of the gen-



growth

This international headquarters has built-in expansion space with main facilities always in a central position

eral office we put an employes' lounge, a storage vault is on the other. Mailing, machinery, and storerooms and lavatories are at the east rear corner of the building. A driver's lounge and a set-off materials handling area is in the west section.

The conference room at the southwest corner has a 33-ft glass wall, while the glass-enclosed reception area carries the outdoors indoors with a waterfall and pool. A third glass wall is on the east side adjacent to the general office. All exterior steel framing is a contrasting dark color so that it seems to hug the ground.

Decor of the new headquarters has been done in pastel shades with buff predominating. Carpeted floors and walnut paneling have been used to create the proper atmosphere in the conference room and the general manager's office. Ceilings throughout the building are of acoustical tile which permits variable positioning of the lighting. Every office on the 21/2acre lot has plastic dome skylighting - an added feature. The building is centrally heated and air conditioned. Music will be piped into all offices.

An open door for as many as three expansions has been built into the structure. When it becomes necessary for Atlas to expand, it would affect the administrative and possibly the general office areas. The addition to executive offices would involve knocking

(Please Turn to Page 96)

PCSA releases new crane rating standards

Here are the new crane rating standards just released by the Power Crane and Shovel Assn. for use with all full-revolving power cranes

PURCHASERS and users of power cranes can now easily compare machines on a uniform and equitable basis due to the new method adopted by the Power Crane and Shovel Association.

The method as adopted by the Association is as follows:

1. Crawler - mounted, truck-mounted, and wheel - mounted cranes will be rated on the basis of the maximum load, in tons, at the radius selected by the manufacturer, in accordance with Commercial Standards CS90-58, paragraph 6.06.

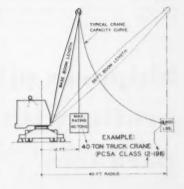
2. The crane rating will be supplemented by a second group of numbers to designate the Power Crane and Shovel Association classification into which the crane falls. This identification will consist of two numbers, as follows:

a. The crane rating radius, in feet, of the maximum rated load, with base boom length, as determined under Paragraph 1.

b. The rated load (expressed in pounds divided by 100, and rounded off to the nearest whole number) at 40-ft radius, with 50-ft boom length.

3. The above values are to be based on the crane ratings in the direction of least stability, with outriggers set, if the machine is so equipped.

 Example: Assume a truck crane rated, under Paragraph 1, with base boom length, at 40 ton



at 12 ft radius and at 19,600 lb with a 50 ft boom at 40 ft radius.

As explained by E. F. Rueter, chief engineer of Unit Crane and Shovel Corp., who was the chairman of the Association Standards Committee which developed this method, the classification would then be:

Forty Ton Truck Crane (PCSA Class 12-196).

The figure "12" comes from the rating radius (Par. 2-a) and the 196 from dividing 19,600 by 100 (Par. 2-b).

The Standards Committee of the Association spent almost two years on a study of this subject and analyses of the various approaches to it. In adopting this method it is felt that it will occasion the least dislocations in existing manufacturer's methods and rental situations.





Above Left: Precision-made sucker rods for use in oil wells are held by steel straps on spacer blocks. Five or six sets of spacer blocks are used in each package depending on the length of the rods. The method was developed by the National Supply Co. which ships the rods in carload lots to oil fields in the West. Straightness and threads must be guarded during shipment. This method of packaging makes it possible. Above Right: Twenty-two packages of the sucker rods are shown in place on a flat car. Steel straps encircle the whole shipment at spacer block-positions, make overhead handling possible

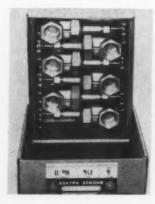
Shippers pile up profits with new packages

These wirebound master containers are reusable and Jasper Blackburn Corp. uses them to hold from six to 10 packages of pole line hardware and electrical line equipment for shipment to distributors



Standardized boxes reduce waste for Walworth Co. in its packaging of valves and pack six or 12 to a box in one of 10 new carton sizes

Vita-Craft Corp. puts its cookware in these brightly printed containers by Gaylord Container Corp. Different sets of utensils are shipped in same size box. Different color combinations help identify contents of boxes Gaylord Container Corp. designed this corrugated china pack. It's slotted and has just three pieces of interior packing. It protects a 5-piece place setting with corrugated pad cushions







The DM ...

(Continued from Page 38)

the end of the production line. They have set up a separate corporate division that physically takes over the finished products—in its own buildings away from the plant. This lends a finality to the manufacturing operation. The plant does not use up valuable production space for finished product storage. The effect is that the plant concentrates its efforts on designing new lines of products, improving its current lines or models, and stepping up production efficiency.

In principle, this arrangement is similar in objective to the corporations that have set up a separate sales organization. The manufacturer leaves all sales, marketing, and advertising to the subsidiary. However, most of these manufacturers still do the shipping. It is possible, of course, to set up a subsidiary to handle both-selling and physical distribution. The ever present danger with such a setup is that the parent company could lose control-the tail would wag the dog-unless it also developed other independent outlets, such as government business or private brands.

Because of the special legal, technical, and financial problems involved in setting up such subsidiary corporations, they shall not be considered for the present. Instead, distribution shall be considered as a departmental function, set up to permit industry to reduce its third largest item of expense—following labor and materials—and strengthen its competitive position.

As a department, distribution can be set up with the minimum of reorganization. It simply requires a streamlined integration of functions that, in most companies, presently are interlocked between several departments; creating unnecessarily high costs, and causing a high degree of inefficiency.

Perhaps the most effective and the simplest way to outline the scope, responsibility, and function of a distribution department is by

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Circle No. 7 on Card, Facing Page 51, for more information

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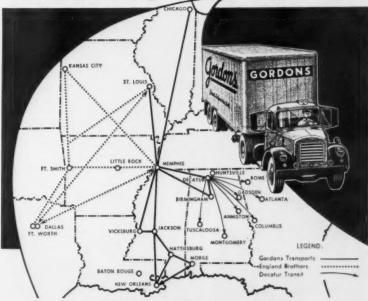
- Central Station Services in principal cities and surrounding areas.
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The DM ...

(Continued from Preceding Page)

means of an organization chart. The accompanying chart should serve this purpose for most companies.

Starting downward, the chart shows that the distribution manager should have three assistants to provide the needed specialized control over the three major phases of physical distribution—sales, transportation, and production. These phases are operational and liaison.

The Sales Phase

Operationally, sales control has a staff to handle all incoming orders; those that originate in the various sales offices as well as those that come in directly from the customers. If the company does a large export-import business, the sales control head would set up a separate staff to handle it.

Depending upon the size of the

company, volume of sales, and system used, these orders are sorted manually, mechanically, or electronically as soon as received. Then they are sent to the department's warehousing center, with copies to production control and transportation control. Warehousing notes the destinations, and checks inventories at or near those points. Then it transmits the orders to the nearest local warehouse for filling and delivery.

If handled electronically, all control operation liaison centers receive copies simultaneously, and in a matter of minutes. Depending on the size and nature of the order, it could be on its way to the customer within a few minutes to a few hours after receipt. If the local sales offices transmit their orders electronically, it is possible for the buyer to have same day, at least overnight, delivery.

If a company has an electronic data processing system connecting its various departments and offices, it may be questioned how and why this function is handled better by distribution. In a word, the answer is "control." The best system in the world is only as good as its control. Up to now, distribution has had little or no follow-through control. And any department set up for any purpose other than distribution just won't have the interest—and may not have the know-how. EDP could be collecting valuable distribution market data. If no one could interpret and use it, the data might as well not exist.

For example, sales control in distribution works up annual, quarterly, monthly, or weekly sales forecasts. Production control uses the same data to give the plant adequate manufacturing lead time to insure adequate stocks. This is very important where products on the line are cycled. Further, transportation control uses this data for working out the most economical and most efficient shipments. Not only are immediate deliveries handled promptly but future shipments can be planned properly. All phases work in advance, instead of

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An especially valuable feature of sales control is its concentrated study of future markets. It ties-in with special sales campaigns. It alerts production. It prepares the plant's sales department for population shifts and changes in buying habits, as well as for the introduction of new products. It will alert warehousing to the need for new distribution centers. And so on.

Transportation Control

The other operational functions are handled in a like manner—slanted solely for efficient, low-cost distribution. Transportation is distribution's largest item of expense. It should have its own accounting staff.

Again, depending on the degree of its mechanization and integration, distribution's accounting staff is able to invoice as soon as inventory shows that the order is being filled. More than this, however, is accomplished simultaneously. Through the data processing facil-

ities, a series of fast checks can be accomplished: Credit ratings, immediate correction of customer addresses, discounts, sales commissions, and so on.

By removing this operation from the plant's accounting department, not only greater speed but greater efficiency and lower cost are achieved. The cost of accounting is known, without arbitrary prorating. The plant's accounting staff often is sidetracked by plant production record demands, payrolls, discounting bills payable, employe time records, and many similar matters.

Distribution's accounting now is able to keep detailed records of all of its own expenses, correctly apportioned to each sales territory. If located in the main plant, it can determine exactly its share of overhead expenses. Under normal accounting procedures, this item rarely is accurate. Even shipping room expenses get buried under several headings in general accounting.

Most important, distribution's

accounting can do a better job of auditing freight bills and warehousing charges. Recovery of overcharges in freight bills offers such great savings possibilities that outside auditors make a specialty of this service—just for an even split of what they can collect. These moneys could be recovered just as well by distribution's staff.

Distribution's legal staff keeps posted on ICC and PUC regulations, handles rate litigations, insurance, damage claims, labor contracts, letters of collection, equipment leasing contracts, rail siding agreements, contract carriage agreements, accidents, and so on.

The traffic function on this level concerns itself generally with rates, routings and classifications. Through its transportation staff, however, it is responsible for all loading and unloading operations. If there is a sufficient volume of foreign shipping, that phase of traffic would be handled at this level.

Production control's phases are (Please Turn Page)

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The DM ...

(Continued from Preceding Page)

concerned with the beginning as well as the end of the production line. Liaison is maintained with the plant to insure a steady production volume on the line. By eliminating peaks and valleys, the products can be manufactured at minimum cost. Employee layoffs are eliminated. Above all, goods are not in over- or under-supply.

Operationally, this phase is responsible for all warehousing—company as well as stocks in public warehouses. Distribution's warehouse specialist is in a better position to deal with public warehousemen.

By coordinating shipments into suitable unitized loads, distribution's warehousing manager can work out the best contract and equitable rates from commercial warehousemen. His understanding of accessorial charges — which he cannot avoid in his own operation—gains the best possible service for the department.



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Another — and very valuable operational phase under this control is light manufacturing. This is why, earlier, references to the end of the production line carried the qualification "or near the end."

Traffic rate specialists often are able to work out low rates for their commodities if they are shipped not completely assembled. The most obvious example is an item like a dining-room table. If shipped completely assembled, only a small number could be loaded into a freight car. Even the car's minimum rate would make the cost of such a shipment prohibitive.

Shipping certain products in bulk is another possibility. A tank car of a liquid chemical compound would cost less to ship than a box car of the same compound in carbuoys.

Thus, between transportation control and production control an arrangement can be worked out whereby the final packaging operation can be handled at the decentralized distribution centers. The great transportation economies gained can more than offset the cost of establishing this final operation close to the point of delivery. If the company's distribution centers are operated from public warehouses, these organizations usually are able and glad to provide the service. It even may be wise to eliminate this operation entirely at the main plant-except enough to take care of local deliveries. As often as not, for the space required at the point of manufacture, this is the least profitable of all operations.

The materials handling function under production control also is both liaison and operational. In the liaison phase, arrangements are made with the plant for pallet loading, for example, in units best suited for warehousing. Disposable pallets might be used for rail and truck transportation. The last stage of product delivery could be arranged for overhead handling, if the product is to be loaded into gondola cars or open top trucks. There are countless opportunities for a materials handling expert to cut distribution handling costs, as well as insure safe arrival of products to the customer.

23 E. JACKSON BLVD., SUITE: G3, CHICAGO 4, ILL.

Product damage reduction also is the basis for having a packaging expert on this staff. He can work out a few modular panels that could handle all possible combinations of shipping units. With the materials handling engineer, he may be able to work out a system where only minimum packaging is needed, by using special cars, thereby cutting tare weight to the barest essential. The special requirements of packaging for foreign shipments also make it very advantageous to have the services of a packaging expert on the distribution staff.

There, touching only the high spots, is a very general outline of the scope, function, and responsibilities of a distribution department. Future articles will spell out these functions in greater detail.

One of the most frequently asked questions about distribution management seeks to determine which of industry's conventional departments—if any—would be the most natural base upon which to organize a distribution department. Actually, if the traffic department has been functioning within its fullest

possible scope, it would be the logical base. As a matter of fact, there are a few large industrial traffic departments that perform most of the functions now, but have not gained recognition from top management. They need but add the operational phases to their existing liaison contacts. Presently, they are about as effective as they can be. Given a little more authority, they could make great contributions toward providing better customer service and cutting overall distribution costs.

Determining just who these traffic people ready for this promotion are merely requires an analysis of their staffs and their activities. If they have kept pace with materials handling, packaging, warehousing, communications, electronic data processing, export-import procedures, insurance, labor relations, and office management practices, they are in the running. If, in addition, they have worked with cost accounting, sales, and production departments, they are in the lead.

(Please Turn Page)

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Circle No. 8 on Card, Facing Page 51

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The DM ...

(Continued from Preceding Page)

Unfortunately, this is not true of the majority of traffic people. A great many have leaned toward specialization and professionalization. Some are located in office buildings, away from their plants, and have only a vague idea what's happening beyond their narrow sphere of interest. Many are just not the executive type. They gained their positions by seniority, rather than by ability.

What kind of qualifications should the distribution manager have? Before answering this question, it should be remembered that the distribution manager bears great responsibility. His corporate standing should be on the level of a vice president or general manager.

Ideally, then, he should have the general qualifications of the aggressive owner of a small manufacturing business. More often than not, such a man bought the raw materials, helped make the product, sold it, packed it, carried it in the back of his car to the freight yard, paid his employes, swept out the place, and then went to the bank to borrow money for the next day's operation.

While he must be acquainted with many specialties, he must never think as, or become involved with the infinite details of a specialist. He needs to know only enough to understand what they're talking about. His range of interterest and/or experience must be wide. It should include traffic, all forms of transportation, sales, cost accounting, marketing, export-import, insurance, business law, warehousing, industrial engineering, packaging, materials handling, production techniques, labor relations, electronic data processing, communications, and business economics.

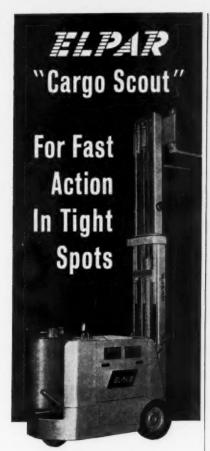
Of course, such a long list must be qualified. Take the first item mentioned—traffic. Must he be able to recite the rates and routing of your commodities between your plant and Margate, N. J.? The answer is no. Nor need he know how to prepare a rate complaint before the ICC. He even need not know how to read a tariff.

What he must know is that rates are based on commodity classifications, and that he always must be on the alert to get the most favorable rates for his products. To do that, all he need to do is ask his traffic manager or rate clerk to review classification periodically. He should know enough about such things as pool-car distribution, transitting, and piggyback to determine if they can be adapted to his distribution needs. The same general points apply to all other subjects outlined.

Perhaps the most important qualification is that of a good executive. He must have administrative ability.



Circle No. 9 on Card, Facing Page 51, for more information



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HIGH SPEED

ELPAR's high speed lift and travel plus fast acceleration assure more work in less time.

SAFETY

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4 models-2, 3, 4, & 5,000 lbs.

Write For Descriptive Catalog - Specify capacity required.





ELWELL-Electric Company

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. . . Flow

(Continued from Page 41)

mented approach that firms seem to take toward their distribution problems. Notice that the key to the solution of the problem of controlling physical distribution costs lies in its consumer orientation. This clearly shows the logistical nature of total effort of the firm in satisfying a particular segment of market demand.

However, the run-of-the-mill organizational chart distributes control over this complex logistical problem by its division into separate and, too frequently, compartmented parts. Control generally is divided in varying proportions among the traffic, sales, purchasing, and production departments.

Each of these clearly has a separate and distinct function. However, by placing primary responsibility upon each of these areas for separate segments of the total problem, an organizational invitation is presented to fragmentize actions to suit the immediate ends of the departments.

Achieving balance in the logistical system of the firm in light of this conflict becomes difficult, if not impossible, if the various departments are given equal and correlative powers. Organizationally, therefore, the worst alternative would be to distribute unilateral control over each part of the problem to each department.

If the divisional approach is incorrect on the grounds that complete and integrated control is impossible, then it must follow that centralized authority over this function is essential. Certainly there are strong grounds for such a policy for at least planning.

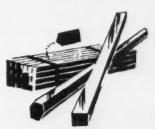
Probably a strong case may be made for centralized control over both the planning and operations levels. However, with the institutional rigidities inherent in a traditional organizational plan, the more politic alternative may be to maintain existing departmental divisions for operational control. At the same time, a planning function could be superimposed over all of these operational departments. •

(Resume Reading on Page 42)



For shipping cars





or steel bars

The Better Way is Santa Fe

No matter what you ship, call the nearest Santa Fe Traffic Office and let the longest railroad in the U.S.A. go to work for you.



. . . Hand Trucks

(Continued from Page 54)

decided to find out what would happen if rubber-tired wheels were substituted for steel wheels. A truck so equipped was loaded to capacity and placed in one of the sub-freezing rooms at the start of the lunch hour. At the end of the period the wheels had frozen so tightly to the floor that four men were required to break it out!

It is not always possible to have tests end successfully, but we should not let this discourage us from doing all we can to improve situations. For example, it was found on one loading platform that condensation from overhead pipes and the ceiling dropped to the floor and made it wet and slippery. Rubber squeegees were helpful in removing the water, but an industrial vacuum cleaner did an even better job.

Distances and Frequencies

It goes without saying that the

first thing to do about travel distances is to be sure that the routes covered by hand trucks are as short as possible. But having set up the shortest route how can we be sure that it is the optimum distance for our particular operation? Fortunately experiments have been made in this field. It is merely a matter of seeing how we can make use of available data in order to solve our particular problem.

The technical information made available by the Caster and Floor Truck Manufacturers' Association in its "The Caster and Floor Truck Engineering and Purchasing Planbook" is the most complete that I have seen.

Since this book should be part of the working library of anyone having to do with hand trucking operations, we shall not here give the various formulas for arriving at the tractive resistance of trucks on various surfaces and the amount of human energy necessary to keep a truck in motion. However, with permission of CFTMA we are reproducing two of the many helpful graphs found in this book and will quote from some of the conclusions reached regarding optimum factors in trucking operations.

Spring Balance Test

A simple way to determine the drawbar pull (or tractive effort) for any truck on any particular surface is to rig up a spring balance as shown in Figure 3. The starting effort is read from the scale when someone pulls on the free end of the rope until the truck just starts to move. The force required to keep it moving is obtained by having someone pull the truck at the rate of about 2 mph (176 fpm) and reading the pounds indicated by the scale pointer.

Now that we have secured this data, let us turn to the Planbook and learn how we can use it. The Planbook refers to work done by researchers at Liberty Mutual Insurance Co. in these words: "According to Liberty Mutual, the



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to work for you. Put Magliners on your dock!

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DOCK BOARDS

Canadian Factory: Magline of Canada, Ltd., Renfrew, Ontario

Circle No. 11 on Card, Facing Page 51, for more information

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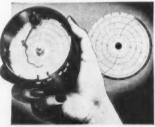
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DISTRIBUTION AGE

theoretical optimal horizontal resistance in pushing a truck on a level plane is around 32 lb. An appreciable increase over this results in exponential increases in energy expenditure while a decrease represents a decrease in the efficiency of the worker.

"Other sources give higher values as the allowable limits on rolling resistance. Most of these are in the 35- to 40-lb range, with 40 lb being, perhaps, the average empirical value used by all industries. Seldom is a value of 50 lb recommended except for intermittent movement under unusual conditions.

"One such condition is the movement of a truck up a ramp or grade. In this case, Liberty Mutual studies indicate that the maximum allowable resistance up a short ramp should be taken as 50 lb." Note particularly that this figure is for a *short* ramp.

The top graph on Page 53 relates the safe travel distances in feet per hour to weight of the truck and its load. The one factor you need to utilize this chart is the coefficient of rolling friction. You can arrive at this without the use of a table by the following formula:

Coefficient of rolling friction = Drawbar pull (lb)

Wgt of Truck & Load (lb)

The explanation under this graph tells how you can arrive at the safe travel distances in feet per hour for your particular truck and conditions.

Should you have any ramps which your trucks must negotiate you have all the information needed to utilize the second graph on Page 53. Note that this graph is based on the degrees of slant of the ramp. The following values will be helpful if you know the per cent of grade: 1 deg = 1.74 per cent, 2 deg = 3.49 per cent, 3 deg = 5.24 per cent. 4 deg = 6.99 per cent, 5 deg = 8.74 per cent, 6 deg = 10.51 per cent, 7 deg = 12.27per cent, 8 deg = 14.05 per cent, 9 deg = 15.83 per cent, 10 deg =17.63 per cent.

With two other limiting values we have all the basic information at hand for making an estimate of our operations. CFTMA recommends that "based on the average American male, the recommended height of the pushing bar above the floor is between 30 and 40 in." and "in determining tons/manhour that can be handled with manually operated trucks, the walking speed of the operator should be taken as between 2 and 21/2 mph (176 and 220 fpm), with the lower figure being recommended from the standpoint of minimum fatigue."

By way of summarizing our discussion let us review the steps to be followed in evaluating a hand trucking operation. The first move is to correct all factors in connection with the truck itself, the running surface and the ambient conditions. With all discovered faults corrected, determine the drawbar pull when the truck is moving at 2 mph. If this is appreciably above 32 lb, the load is probably too great. If it is less, an increase in load will make the operation more efficient. Figure out the distances traveled and the frequency with which they are made and from the graph at the top of Page 53 you will know whether or not the men are working within safe limits. •

(Resume Reading on Page 55)

"Expanded distribution

without warehousing with Delta Air Freight"



Armour Pharmaceutical Company eliminates warehouses by airlifting area shipments to regional centers where pre-labeled and postage-paid packages are speeded to individual customers.

"Drug shipments need expensive refrigerated warehousing and special handling as a rule," comments W. F. Sheehy, Transportation Manager. "We eliminate this requirement by using Delta Air Freight and serve our customers faster and better. A 9-state shipment, for example, can be flown to Atlanta where individual packages, already pre-labeled and stamped, fan out to our customers in a fraction of the former time."

Profit from Delta's BIG PLUS

Delta operates all-cargo flights and in addition carries freight on every passenger flight, including Jets. All-cargo flights serve Atlanta • Chicago • Cincinnati Charlotte • Dallas • Houston • Miami New York • New Orleans • Orlando Philadelphia • Tampa



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By Leo T. Parker Legal Consultant, Distribution Age



Transportation

Has a higher court ever held that a state classification tax law is not unfair?

Yes. For instance, in K—— T——
Co. v. B——, 151 N. E. (2d) 654, it
was shown that a state law of Ohio
requires the Ohio Highway "use" tax
to be paid by carriers domiciled in
Ohio. These taxes need not be paid
by truckers domiciled in Michigan or
Indiana.

The higher court held this tax law valid and enforceable.

This higher court also held that a carrier's constitutional guarantee of equal protection of the laws is not violated by administrative classification of motor vehicle common carriers under the highway use tax statutes.

When filing for extension of service, must a carrier strictly obey the laws of that state?

A late higher court held that failure of a carrier to comply strictly with state laws when filing an application for extension of its service will result in the application being denied.

For illustration, in T—— T—— v. H—— T——, Inc., A—— V——, 322 Pac. (2d) 341, the testimony disclosed that a carrier filed an application for extension of its certificate of convenience and necessity into areas served by other motor carriers. The Public Service Commission granted the application. The objecting carriers appealed.

The higher court held that the certificate could not lawfully be extended because the carrier did not comply with a state law and make proof by affidavit of required and pertinent facts as to why the certificate should be extended. This court said:

"Here, no valid appeal was perfected within the time prescribed by state laws. For that reason appellant's (carrier's) motions cannot be sustained." What are some recent laws on taxation which affect transportation of merchandise?

Laws are reviewed here which affect transportation of merchandise and which originate from two important sources, namely the state legislatures, and municipal councils.

It is well to explain that a municipality has a legal right to subject the owners of motor vehicles to the payment of a license fee, for the privilege of operating vehicles on the streets.

C—v. C—, 175 Ill. 445. R—v. J—, 149 N. E. 813. However, various other laws of this kind may or may not be valid, depending upon their specific provisions.

For instance, in City of L—v. D—, 268 Ill. 175, the court held that an ordinance is invalid which required the owners of privately operated automobiles to pay a license, but exempted the owners of heavier vehicles, such as trucks and other commercial motor vehicles.

The courts have the power to construe the intended meaning of a clause or provision of a constitution. Therefore, while certain laws apparently may be void, yet they may be valid and effective for various reasons of particular benefit to the health, morals, safety, or general welfare of the majority of the people.

In other words, if a law is designed to safeguard the public, it is valid even though apparently it interferes with personal rights guaranteed by the state or the Constitution of the United States. On the other hand, either a state or municipal law may be invalid if it interferes with the liberty of person and property, as guaranteed by the U. S. Constitution, or obviously was designed to benefit only a few persons.

For example, in a recent litigation, the higher court held a state law invalid which required applicants to have had three years previous experience before being eligible for a license. In deciding this case the court in effect said:

"We cannot refrain from the thought that the law in question was conceived and enacted in the interest of those persons engaged in the particular business, and that the relation and importance of the business to the general health and welfare of the state had much less influence upon its originators, than the prospective monopoly that should be effective with the aid of the provisions of the law."

Can a firm relieve itself of damages incurred by hitchhikers who are injured or killed?

In the past a considerable number of law suits have involved injuries sustained by strangers who were permitted by drivers to ride on motor trucks. It is well to know that motor truck drivers are duty bound to perform definite duties for the employer, and obey instructions.

When a driver chooses to perform acts or deeds not necessary nor incidental to the discharge of his regular duties and especially when he disobeys his employer's orders, he exceeds the scope of his employment. And an employer is not liable for acts performed by the driver outside the scope of the employment.

For these reasons all owners of motor trucks, as warehousemen, motor transportation companies, and the like can avoid liability for injuries sustained by strangers who ride on their trucks, if the testimony proves that the employer had positively instructed his drivers to not permit strangers to ride.

For example, in L—v. S—Corp., Louisiana, 5 So. (2d) 41, the testimony proved that officials of a transportation company had positively instructed drivers not to permit strangers to ride on the motor trucks. Without knowledge of the company's officials, a driver was in the habit of allowing strangers to ride with him. One day one of these riders was killed through negligence of the driver. His dependents sued the company.

The higher court held the company not liable, saying: "The record unquestionably establishes a consistent and conscientious effort on the part of the defendant's (company's) officers to enforce its rule. It was impossible for them to know, especially at night or early hours of mornings, when the rule was violated.

"It is well established that when a person rides in a motor vehicle on the unauthorized invitation of the owner's employe, the status of the rider is not that of invitee but as trespasser."

By the same rules of law when a truck driver effects an injury while deviating from the route specified by his employer; or while using the truck for his own personal purpose; or while otherwise using the truck for a purpose different from the agreement with his employer, the employer is not liable for negligence of the driver.

For instance, in K— v. C—, 189 So. 508, it was shown that a man named K— owned his own truck. He signed a contract to transport merchandise for a corporation. He furnished all equipment for performance of his work, and paid his own expense.

Also he had the privilege of hiring and paying his helpers. The length of the employment was not specified in the contract and there was no agreement as to the amount of merchandise K—— would haul per day, or during the existence of the contract. The corporation had the privilege of discharging K—— at any time and the latter had the privilege of leaving the job at any time.

The legal question presented the owner was whether the corporation was liable for payment of damages caused by K—— when he was taking the truck to a garage for repairs. In holding the corporation not liable, the court said:

"It is immaterial whether he was an independent contractor or not. It is shown by the facts that the accident occurred at a time when the plaintiff (driver) was not engaged in his employment, but, on the contrary, was on the personal mission of having his own truck repaired."

Other higher courts have laid down that law that, in the absence of a contrary state law, a corporation may avoid liability for injuries caused by negligent truck drivers who own their own trucks if a contract is made with the truck owner to the effect that he must bear the expenses and losses caused by operation of his truck.

Are employes who supply merchandise to retail establishments exempt from Fair Labor Act?

In the past it has been established that employes employed directly and indirectly in retail establishments need not be paid wages and overtime specified by the Fair Labor Standards Act. Last month a higher court varied this usual law by holding that employes who supply merchandise to retail establishments and stores are not exempt from the Fair Labor Standards Act.

The testimony showed that the employes in the central office at the warehouse perform the accounting functions for all retail stores. Separate payroll records and separate financial statements are kept. The principal controversy is centered around the definition of "retail establishment."

In the earlier construction of the Fair Labor Standards Act of 1938, the courts held that employes are exempt from the Fair Labor Standards Act, if such employes are employed by any retail or service establishment, more than 50 per centum of which establishment's annual dollar volume of sales of goods or services is made within the State.

The higher court held that the employes who operated the office and warehouse were not employed by any "retail establishment" and were not exempt from the Fair Labor Standards Act.

In other words, all employes in the central office and warehouse must be paid wages and overtime specified by the Fair Labor Standards Act. This court said:

"The principle remains that each separate retail outlet constitutes a 'retail establishment' within Section 13(a) (2). As such, the employes involved in this case were not 'employed by any retail or service establishment' and thus are not exempted from the operation of the Act."

What are the circumstances under which social security and like taxes must be paid on employes?

The general answer is that an employer need not pay social security on employes not within his direct control.

For example, a leading higher court held that "owner-operators" of motor trucks are not "legal" employes of the trucking company which, therefore, is not liable for payment of social security or federal insurance contributions.

under the Social Security Act, the Federal Unemployment Tax Act, and the Federal Insurance Contribution Act.

During the trial the lawyer representing the trucking company proved that the company had contracts with certain motor truck owners to do its hauling. The written contracts contained the following clause: "It is to be clearly understood and agreed, and it is the intention of the parties that Second Party (truck owner) is a contractor only and is not the agent, employe or representative of First Party (company) for any purpose whatever."

The contract also provided that the owners of the trucks should assume full responsibility for paying state and federal taxes for unemployment insurance, old age pension, or other social security.

The government argued that the company was the legal employer and therefore responsible for taxes. The government pointed out that the president of the company had made application to the ICC for truck license plates. In so doing, he expressly stated that they were for motor vehicles operated by and under the control, supervision, and responsibility of the company.

Notwithstanding these facts the higher court ordered the government to repay to the company. This court said:

"In general, if an individual is subject to the control or direction of another merely as to the result to be accomplished by the work and not as to the means and methods for accomplishing the result, he is an independent contractor.

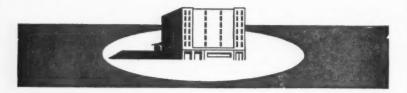
"An individual performing services as an independent contractor is not as to such services an employe.
... The use of the plates and the form of the application therefore is clearly explained by the necessity for complying with the regulations of the Interstate Commerce Commission."

May the smell of liquor on a truck driver's breath be mentioned in accident testimony?

A few weeks ago a higher court held that if the smell of liquor is on the breath of the driver of a moving van, at the time of an accident, this testimony may be considered by the jury when rendering its verdict.

For illustration, in Z—v. K—, 83 N. W. (2d) 288, it was shown that a driver named Z—stopped at a tavern where, so he testified, he had only one drink consisting of about % of an ounce of whiskey and a glass of beer. Soon afterward Z—collided with an automobile making a left turn on a highway. He contended that he was not responsible for the collision because the driver of the other vehicle did not signal his intentions to make a left turn.

Warehouse SPOTLIGHT



NLRB Seeks Injunction on Strike For Hot Cargo Contract

National Labor Relations Board representative Stuart Rothman has authorized complaint and injunction proceedings under new provisions of the National Labor Relations Act to restrain a strike for a hot cargo contract.

The contract, which would require E. A. Gallagher and Sons of Philadelphia to cease doing business with self-employed owneroperators, sparked the strike by Teamsters Local 107 representing Philadelphia truck drivers. By the contract's terms, Gallagher, an interstate carrier, would have to give preference in leasing additional equipment to employers who have agreements with Teamsters. It would have to cease making deliveries in the city area with over-theroad drivers and would have to use Local 107 members only for such deliveries.

The contract also requires that all over-the-road freight be brought to the terminal before delivery to consignees. An agreement has been reached, however, so that there will be no secondary boycott until the labor dispute is settled.

Package environment in refrigerated warehouses is the subject of a symposium scheduled by the Scientific Advisory Council of the Refrigeration Research Foundation for March 18-19 at the LaSalle Hotel, Chicago.

HCB Releases Carton Standards

The Household Goods Carriers' Bureau has released specifications for the standardization of cartons arrived at by the Bureau's Carton Committee in conjunction with the Rates and Tariffs Committee.

The new sizes are: Book cartons —18½ x 12 x 12 in., 1.51 cu ft, 200-lb test; lamp and bedding cartons—18½ x 18 x 16 in., 3.02 cu ft, 200-lb test; clothing cartons—41 x 23 x 12 in., 6.6 cu ft, 275-lb test; dish pack—18 x 18 x 30 in., 5.6 cu ft, 350-lb test; and wardrobe—24 x 22 x either 42 or 55 in. (depending upon carrier's desires) 275-lb test.

Also, single mattress—39 x 8 x 75 in., 200-lb test, and double mattress—54 x 8 x 75 in., 200-lb test.

Van Lines Hold First Joint Meet, Point-Up Moving Industry Progress

Two van lines joined forces recently to create the first joint convention of agents from competing companies in an effort to prepare for future industry growth.

Agents of Burnham Van Service and Ford Van Lines discussed changes in rules and regulations, new methods of storage, and solicitation. Dr. Kenneth McFarland led the group of sales-oriented speakers who addressed the gathering of approximately 200 agents and their wives.

A suggested plan to provide better service during peak months was presented by the agents of both companies.

Washington-Area Movers Organize As Committee to Form U.S. Group

Six movers in the Washington, D. C., and Virginia area have started their initial move to form a national association of small businessmen in the household goods moving industry. Thomas F. Robertson will manage the new organization at its executive offices in Washington.

Among the movers participating in the formation are: Arthur C. Smith, Jr., Smith Transfer and Storage Co., Washington, D. C.; Parker New, New-Bell Storage Co., Norfolk, Va.; E. Harold Tolbert, Capitol Van Lines, Washington, D. C.; and Alfred E. Crowe, Vet Van Lines of Virginia, Arlington, Va

Also H. C. Owings, Jr., Trans-Vans, Inc., Norfolk, Va. and C. B. McDaniel, Hilldrup Transfer and Storage Co., Fredericksburg, Va.

NFWA Dedicates Annual Meeting To Byrnes, Banquet on March 7

-- DA--

This year's Annual Meeting of the National Furniture Warehousemen's Association will be dedicated to Edward D. Byrnes. He will be the honored guest at a testimonial banquet on March 7, the second day of the five-day affair expected to attract some 500 members to the Hollywood Beach Hotel in Hollywood Beach, Fla.

Main portion of the first business session will be the local moving seminar developed by the Armour Research Foundation. Taking an active part in that session will be George Winkler, president, John Winkler's Sons, Inc., Far Rockaway, N. Y.; William J. Croul, president, Riverside Storage and Cartage Co., Inc., Detroit, Mich.; and Robert O. Wogstad and Maurice T. Hesterman who are field representatives of the Association.

Byrnes will moderate the afternoon session which will concern government business. Martin Santini, association vice president for the Eastern Regional District and vice president of Santini Brothers, Inc., New York, will act as chairman of the containerization program.

Warehouse Expands, Changes Name



Southgate Storage Co., Inc., of Norfolk, is expanding its public warehousing operations to include the facilities formerly occupied by Colonial Stores, Inc. The terminal's storage area will be increased by 225,000 sq ft. The company is changing its name to Southgate Terminal Warehouse Co., also

Warehouse Briefs

The Commission of Public Docks in San Francisco has started plans for construction of a warehouse to service and distribute imported foreign automobiles. Westland Warehouse Co., Portland., signed a 10-year lease agreement with the Commission.

Fifty over-the-road drivers have become charter members of North American Van Lines, Inc's. Vanguard—an elite corps of drivers recognized for their constant safety, damage prevention, good customer relations and equipment maintenance. Harry Morton of Sacramento, Calif., ranks first with a perfect score of 1000 points.

A campaign for endowment funds to further scientific advancement in the moving and storage industry has started under the direction of the National Moving and Storage Technical Foundation.

Families, 150 of them, were moved from Los Angeles to Phoenix during a recent weekend by Farley Brothers Moving and Storage, Inc., Los Angeles. The move of Cannon Electric Co. employes and their families required a year of preparation.

Wheaton Van Lines, Inc., has been approved by the Department of Defense to move household goods of military families from the U. S. to France.

To accomplish the tricky jobs of removing TV antennae, disconnecting and reactivating washing machines, dryers, and refrigerators, Neptune World-Wide Moving, New Rochelle, N. Y., uses Allied Homeowners Association, nationwide in scope. Allied does the outside contracting. Move-in and move-out is quicker.

New in Newark, N. J., is the North Jersey Warehouse Corp., at 44 Lister Ave. It has over 40,000 sq ft of clear space under overhead traveling cranes. The Rates and Tariffs Committee of the Household Goods Carriers' Bureau has published a pamphlet entitled "Transportation of Your Laden Home Freezer" designed to instruct the homeowner before the move. The Bureau will provide you with up to five free copies, over that the price is \$5.00 per hundred from the Bureau, 2000 P Street, N. W., Suite 305, Washington 6, D. C.

New Housewares Container



Atlas Van-Lines, Inc., has adopted a new housewares packing container. Cut-away box above shows individual cells into which china will be placed after wrapping. The container is shown in use by Rotherv Storage and Van Co., Des Plaines. Ill.

Assessment, Tax Exemption on HHG Shipments into Indiana Clarified

The Indiana State Board of Tax Commissioners has informed its county assessors of the legality of certain exemptions from assessment and taxation in respect to personal property.

In a letter to the assessors, the Board clarified the exemption from taxation and assessment of personal property of non-residents of Indiana which is shipped into the state and put into storage in the original package in a public warehouse for trans-shipment to an out-of-state destination.

While the Board has no discretion in the matter, it will be required to remove any assessment applied to such out-of-state property if an appeal is taken by a non-resident to remove any such assessment from the record providing the property meets requirements of the statute for non-taxability.

MWA Set for Mar. 3-5 Convention

-DA-

Last minute preparations for the 1960 Annual Meeting of the Mover's and Warehousemen's Association of America, Inc., are being completed. The Association will meet March 3-5 at the Americana, Bal Harbour, Fla. Business sessions with a full complement of social activities have been planned.

Men in the Spotlight

William L. Chadwick — named assistant to the president, Weissberger Moving and Storage Co., Inc., New York.

Andrew J. Smith—appointed manager-exhibition handling, heavy machinery storing and handling, Boston Storage Warehouse, Boston, Mass.

Bernard J. Bereswill—joins Bekins Van Lines Co. as agency relations manager.

Allen P. Bebee—elected vice president-general manager, St. Louis Terminal Distributing Co.

O. J. Hulsey—appointed Southwestern field representative, National Van Lines, Broadview, Ill.; Duane N. Quamme — assistant general sales manager.

Raymond E. Stroden—promoted to field representative-agency relations; James Patterson — manager-claims and insurance, Atlas Van Lines, Chicago.

Warehouse Directory

Listed below are approximately 300 public warehouses whose services are advertised in this issue of DISTRIBUTION AGE. The listing is alphabetical by city and state. Included are general merchandise warehouses, refrigerated warehouses, and household goods warehouses. Also listed are a number of national warehouse sales organizations.

Additional information on the services and facilities of particular warehouses shown in the listing can be obtained by turning to the advertisements on the following pages. Generally the advertisements appear in the same geographical, alphabetical sequence as the listings below. Still more information can be had by writing directly to the warehouse.

ALABAMA

Birmingham Doc's Tfr. & Warehouse, Inc. Harris Warehouse Co. Strickland Tfr. & Whse. Co.

ARIZONA

Phoenix B-Z-Bee Transp'n. & Whse. Co. Lightning Mvg. & Whse.

CALIFORNIA

Los Angeles Los Angeles
Bekins Warehousing Corp.
California Warehouse Co.
Central Term. Whse, Co.
Davies Warehouse Co.
Lyon Van & Storage Co.
Overland Term. Warehouse Co.
Pacific Coast Term. Whse, Co.
Pacific Commercial Whse, Inc.
Star Truck & Whse, Co.
Union Terminal Warehouse

San Francisco San Francisco Whse. Co.

COLORADO

Colorado Springs Weicker Tfr. & Stge. Co.

Denver

Alpine State Warehouse Larsen Tfr. & Stge. Co. North Denver Tfr. & Stge. Weicker Tfr. & Stge. Co.

Pueblo Weicker Tfr. & Stge. Co.

CONNECTICUT

Bridgeport William B. Meyer, Inc.

Hartford

George E. Dewey & Co. Hartford Despatch & Whse. Co., Inc.

DELAWARE

Dover Delmarva Whses., Inc.

DISTRICT OF COLUMBIA Washington

Davidson Tfr. & Storage Co. Kane Warehouse Company Terminal Stge. Co. of Wash.

FLORIDA

Jacksonville

Jacksonville Warehouse Co. Laney & Duke Stge. Whse. Co., Inc. M & M Terml. Whse. Company Peninsular Whse. Company Union Terminal Whse. Co.

Miami

Colonial Warehouse, Inc. International Bonded Whse, Corp. Santini Bros., Inc.

GEORGIA

Atlanta American Bonded Whse. Savannah

Savannah Bonded Whse. & Tfr.

HAWAII

Honolulu H C & D Mvg. & Stge.

ILLINOIS

Cairo Hudson Warehouses

Chicago

Chicago
Ace Warehousing Service
Adeliated Whee, Companies
American Chain of Whees, Inc.
Anchor Storage Co.
Associated Warehouses, Inc.
Crooks Terminal Whees, Inc.
Currier-Lee Whees, Inc.
Equipment Storage Corp.
Griswold & Bateman Whee, Co.
Grove Storage Co., Inc.
Joyce Bros. Stge, & Van Co
Majestic Whees, Inc.
Midland Warehouses, Inc.
North Pier Terminal
Packers Termi, & Whee, Corp.
Producers Warehouse
Soo Terminal Whee, Co.
Sykes Terminal Whee, Co.
Thomson Terminals, Inc.
Wakem & McLaughlin, Inc.
Wakem & McLaughlin, Inc.
Western Warehousing Co.
Chicago Heights

Chicago Heights

United Warehousing Co.

East St. Louis

McMahon Transfer & Whse. Co. Mid-America Trml. Whse., Inc. J. Nooney & Co.

Joliet

Joliet Whse. & Tfr. Co.

Kankakee

Belt Route Whse. Stge. Co.

Peoria

United Whsing. Facilities, Inc.

Vandalia Whse. Corp.

INDIANA

Elkhart

Schult General Warehouse

Evansville

Mead Johnson Terminal Corp. Producer's, Inc. Terminal Whse., Inc.

Fort Wayne

Edgar's Warehouses Fort Wayne Storage Co., Inc. Pettit Whses., Inc.

Great Lakes Whse, Corp. Illiana Storage Co., Inc. Nowak Warehouses, Inc.

Indianapolis

Indiana Term'l. & Refrig. Co. Indianapolis Whee. & Stge. C Inc. Merchandise Whse. Co., Inc. Strohm Whse. & Cartage Co.

Jeffersonville

Jeffersonville Div. of Louisville Public Whse. Co. Muncie

IOWA

Cedar Rapids

Oren-Shively Whses.

American Tfr. & Stge. Co. Cedar Rapids Tfr. & Stge. Co.

Davenport

Roederer Transfer & Storage

Dubuque

Dubuque Stge. & Tfr. Co.

KANSAS

Hutchinson Hutchinson Merchandise Whse.,

Kansas City

G-K Warehouses, Inc.

Wichita

Yellow Van Moving & Stge. Co.

KENTUCKY

Louisville

Louisville Public Whse. Co.

Winn Avenue Whses., Inc.

LOUISIANA

New Orleans

H. G. Bauer Myg. & Stge. Commercial Term'l Whse., Inc. Gulf Shipside Storage Corp. Hayes Drayage & Storage, Inc. Maloney Tking. & Storage, Inc. Standard Warehouse Co., Inc.

MARYLAND

Baltimore

Camden Warehouses Davidson Transfer & Stge. Co. Rowley Whsing. & Distribut-Rowley Whsing. & Distribuing, Inc.
Western Maryland Whse. Co.

MASSACHUSETTS

Boston

Charles River Stores operated by Merchants Whse. Co. Commodity Warehouse Corp. Hoosac Storage & Whse. Co. National Dock & Stge. Whse.

Co. Standard Storage Co. Wiggin Terminals, Inc.

Lowell

Curran-Morton of Lowell, Inc.

Springfield

Pioneer Valley Refrig. Whse,

MICHIGAN

Detroit

Central Detroit Whse. Co.
Detroit Harbor Term'ls, Inc.
Edgar's Warehouses
Fleetwing Terminal Corp.
Grand Trunk Whse. & C. S. Co.
John F. Ivory Storage Co., Inc.
Jefferson Terminal Whse.
Lakeshor Ewrehouse Inc.
United States Cold Stge. Corp.

MINNESOTA

Minneapolis

Minneapolis Terminal Whse. Co. Murphy Warehouse Co. Security Warehouse Co.

St. Paul Central Warehouse Co. Murphy Warehouse Co. St. Paul Term'l Whse. Co.

MISSOURI

Kansas City

Adams Tfr. & Storage Co. Belger Warehouse Co. Belger Warehouse Co. Central Storage Co. Crooks Terminal Whee, Inc. Evans Whse. Service Fairfax Storage Co. G-K Whees, Inc. Jacobs Warehouse Co., Inc. Kansas City Termi, Whee, Co. Midwest Terminal Whee, Co.

St. Louis

Keystone Warehousing Co. S. N. Long Warehouse Madison St. Termi. Whse. Corp. Rutger St. Whse., Inc. St. Louis Terminal Whse. Co. Tyler Whse. & Cold Stge. Co. Warehousing Corp. of Mo., Inc.

Springfield

General Warehouse Corp.

NEBRASKA

Lincoln Sullivan Tfr. & Stge. Co.

Omaha Ford Stge. & Mvg. Co. Gordon Stge. Whses., Inc. Omaha Central Whse. Co.

Nevada Freeport Storage Co.

NEW HAMPSHIRE Manchester

McLane & Taylor Corp.

NEW JERSEY Bayonne

Lehigh Tank Terminal Wheeling Transportation, Inc.

Camden

mden Marine Terminals Eavenson & Levering Div. of Mack Whse. Corp.

Elizabeth

Wheeling Transportation, Inc.

Hillside Wheeling Transportation, Inc.

Jersey City Cooke Warehouse Corp., J. Lackawanna Whse. Co., Inc.

Federal Stge. Whses. Lehigh Whse. & Trans. Co.

Paterson Commercial Warehouses

Port Newark Wheeling Transportation, Inc.

Trenton Anchor Warehouse Co. Delaware Valley Whse. Co.

NEW YORK

Brooklyn

Dock Whsing. & Bottling Center, Inc. Empire State Whses. Co.

Buffalo

American Household Stge. Co. Buffalo Merchandise Whses.,

Inc.
Keystone Warehouse Co.
Keystone Warehouse, Inc.
Laub Warehouse, Inc.
Laderer Terminals
Wilson Warehouse, Inc.

Deer Park, L. I. Pinter Warehouse, Inc.

Horseheads

Lehigh-Horseheads Whse. Corp.

New York City

Affiliated Whee. Companies American Chain of Whees., Inc. Bowling Green Stge. & Van Co. Chelsea Fireproof Stge. Whees. Santini Brothers, Inc.

Rochester

Geo. M. Clancy Carting Co., Inc.

Syracuse

Great Northern Whses., King Storage Whse., In Paul-Jeffrey Company Inc.

White Plains

J. H. Evans & Sons, Inc.

NORTH CAROLINA

Charlotte

American Stge. & Whse. Co., Inc. Dixle Cartage & Whsing. Co. Raleigh

Carolina Stge. & Dist. Co. Raleigh Bonded Whse., Inc.

NORTH DAKOTA

Fargo

Union Storage & Tfr. Co.

OHIO

Akron Cotter Merchandise Stge. Co.

Cincinnati Cincinnati Trml. Whses., Inc. Cleveland

Assembly Distribution Service, Lederer Terminals National Terminals Corp.

Columbus

Central Ohio Warehouse Co. Columbus Termi. Whse. Co. Merchandise Whse. Co. Ohio Warehouses, Inc.

Dayton

Dayton Warehouses, Inc. Union Storage Co.

Toledo

Edgar's Warehouses Great Lakes Terml. Whse. Co. Merchants & Mfrs. Whse. Co. Toledo Terminal Whse., Inc.

Youngstown

Lederer Terminals

OKLAHOMA

Oklahoma City O. K. Tfr. & Stge. Co. Public Warehouse Co., Inc.

Tulsa General Warehouse Corp.

OREGON

Portland Holman Transfer Co. Oregon Transfer Co. Rapid Transfer & Stge. Co. Rudie Wilhelm Whse. Co.

PENNSYLVANIA

Allentown Hummel Warehouse Co., Inc.

Butler Nicholas Tfr. & Stge. Co.

Erie

Erie Storage & Carting Co. Erie Warehouse Co. M. V. Irwin Moving & Stge.,

Harrisburg

Harrisburg Storage Co. Harrisburg Warehouse Div., Western Whsing. Co.

Lancaster

Lancaster Storage Co.

Philadelphia Commercial Warehousing Co.
Melville Warehouse Co.
Merchants Whse. Co.
Pennsylvania Whsing. & Safe

Deposit Co. Terminal Warehouse Co. Pittsburgh

Beacon Warehouse, Inc. White Terminal Co.

Scranton Quackenbush Warehouse Co.

RHODE ISLAND

Newport Manuel Brothers, Inc.

SOUTH CAROLINA

Charleston Berkeley Storage Co. Charleston Whse. & Fwdg. Corp.

Carolina Bonded Stge. Co. Greenville Beattle Bonded Whse. Co.

TENNESSEE

Chattanooga Whse. & C.S. Co. Memphis

Mayer Whse. & Terml., Inc. Midwest Terminal Whse. Co. Poston Warehouses, Inc. Valden Warehouse

Nashville Bond, Chadwell Co. Central Van & Stge. Co.

TEXAS

Dallas Great Southwest Whses., Inc. Mayflower Warehouses (Ameri-can Transfer & Stge. Co.)

El Paso El Paso Termi. Whses., Inc. Western Warehouses

Fort Worth

PHOENIX, ARIZONA T

Binyon O'Keefe Stge. Co. Houston American Warehouses, Inc. Houston Central Whse. & C.S. Co. Houston Term. Whse. & C.S.

Houston Warehouse Service,

Inc.
T.P.C. Stge. & Tfr. Co., Inc.
Texas Service Whse. Co.
Union Transfer & Stge. Co.
Universal Term. Whse. Co.
Wald Terml. Whse, Co., Inc.

UTAH

Salt Lake City Noyce Transfer Co. Redman Van & Storage Co.

VIRGINIA

Security Storage & Van Co. Southgate Storage Co., Inc.

WASHINGTON

Seattle Taylor-Edwards Whse. & Tfr. Co., Inc.

Spokane
Riverside Whses., Inc.
Taylor-Edwards Whse. & Tfr.
Co., Inc.

WEST VIRGINIA

Charleston Guaranty Storage Co. Huntington vice Warehouse Corp. Service

WISCONSIN

Eau Claire
Superior Transit Stge. Corp.
Green Bay
Leicht Tfr. & Stge. Co.
Madison
Hansen Stge. of Madison, Inc.

Milwaukee
American Warehouse Co.
Hansen Storage Co.
National Warehouse Corp.
Terminal Storage Co.

CANADA

Toronto, Ont.
Howell Warehouses Ltd.
Terminal Warehouses Ltd.
Toronto Storage Co. Ltd.

Montreal, Que. St. Lawrence Warehouse, Inc.

BIRMINGHAM, ALA. [

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· Inside Truck Leading

· Free Switching

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Distribution

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Consign shipments via S.Fe - S.P. Storage and Mationwide moving of household good Represented by

American Chain of Warehouses National Warehouse Receipts System ther American Warehousemen's Association



BIRMINGHAM, ALA. I

STRICKLAND TRANSFER AND WAREHOUSE CO.



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PHOENIX, ARIZ.

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Merchandise & Household Goods. Warehouse Capacity 20,000 sq. ft. -Palletized. Pool Car Distribution-Unloaded and Delivered Same Day. 16 car siding. Our own fleet of trucks (22 units).

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CALIFORNIA WAREHOUSE COMPANY
A Complete Warehouse Service Since 1917

Pool Car Distribution

Rail—Truck—Steamship—Minimum P.U.C. rates—Routing all lines— Reciprocal switching—Two deliveries daily—Cargo insurance \$30,000 truckload. Write for rates and references.

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MARCH 1960

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CENTRAL TERMINAL WAREHOUSE CO.

639 Antonia Ave., Los Angeles 31, Cal.

General Merchandise Storage Sprinklered, Brick Warehouse-ADT Daily local delivery-our own Trucks

LOS ANGELES, CAL. T

Phone: MAdison 9-2181

DAVIES WAREHOUSE CO. 164 So. Central Ave.

Los Angeles 12, Cal.

MDSE. STORAGE-DISTRIBUTION-CARTAGE Reinforced Concrete and brick bldgs.—150,500 sq. ft Completely palletized. Priv. Siding SP—14 Car Cap.— 12 truck dock.

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REpublic 1-3131

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CENTRAL . CONVENIENT . COOPERATIVE

OVERLAND TERMINAL WAREHOUSE CO.

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Associated with CROOKS TERMINAL WAREHOUSES INC., Chicago • Kansas City Represented by W. D. CAVANAUGH ASSOCIATES, New York City

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Member of A.W.A.

PACIFIC COAST TERMINAL WAREHOUSE COMPANY

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LOS ANGELES 58

Telephone LUdlow 3-4183

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- MODERN FLEET OF DELIVERY TRUCKS
- FRIVATE SPUR TRACK-22 CAR SPOT
- A.D.T.-FIRE & BURGLAR ALARM SYSTEM
- LOW INSURANCE RATES
- COMPLETELY MECHANIZED
- ANATION WIDE TELETYPE SERVICE-L.A. 446

Office Space & Telephone Service

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Phone: MA 7-8282

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GENERAL MERCHANDISE STORAGE
POOL CAR DISTRIBUTION STORAGE IN TRANSIT
DAILY HARBOR, LOCAL AND STATEWIDE HAULING
EXPERIENCED, EFFICIENT, BONDED PERSONNEL
10 Car Siding on A.T.&S.F. Railway
Sprinklered—A.D.T. Protected

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Storage Pool Car Distribution Common Carrier 126,000 Square Feet 120 Pieces Motor Equipment Established 1882 Office Space and Telephone Service Represented by Distribution Service—N. Y.-Chicago-S.F.

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Dependable Service

575,000 sq. ft. Storage Space Storage and distribution of merchandise to points in

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Cooler Room Facilities Pool Car Distribution

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Low Insurance (ADT Service) 24 Hour Switching Service Served by Southern Pacific-Pacific Electric Ry. Co.

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LOS ANGELES 21, CALIFORNIA

Telephone-MAdison 7-9581

A. F. Mortensen.

J. A. Williams, Vice President & General Manager

SAN FRANCISCO, CAL. |

SUtter 1-3461

SAN FRANCISCO WAREHOUSE CO.

COMPLETE WAREHOUSE SERVICE

500,000 Sq. Ft.

General Merchandise United States Customs and Internal Revenue Bonded Storage Draying and Pool Car Distribution Office Accommodations and Telephone Service



605 THIRD ST., SAN FRANCISCO 7 **Teletype SF933**

Member American Warehousemen's Assn. Distribution Service, Inc.

Colorado Springs, Colo. SIERRA MADRE OT LAS ANIMAS

TRANSFER & STORAGE CO

* Pool car distribution

* Moving, packing, shipping.

* Crane, Winch, Heavy hauling equipment.

Agent ALLIED Van Lines



In Dénver call Specializing in General Merchandise Storage

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LARSEN TRANSFER & STORAGE CO. Denver 17, Colorado P.O. Box 5152 Terminal Annex

> Represented By Affiliated WAREHOUSE COMPANIES

NEW. YORK

CHICAGO

For more product information use the

READERS' SERVICE CARD

Elsewhere in this issue to check your selections

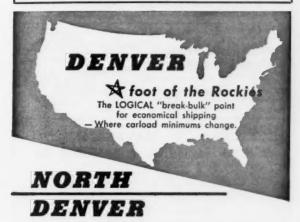
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1936 Market St., Tel: ALpine 5-3144

Bonded Storage & Distribution Modern . . . Sprinkler Protected Mechanized, Palletized Handling Pool Car & Pool Truck Distribution Accurate Inventory Control



A the logical place to Warehouse!

COMPLETELY UP-TO-DATE:

* BUILDINGS

* HANDLING METHODS * OFFICE PROCEDURES





PUEBLO, COLO. 128-130 SOUTH MAIN TRANSFER & STORAGE CO. • Peel Car Distribution * Freight Forwarding as Distribution *AGENT ALLIED VAN LINES-

BRIDGEPORT, CONN.

2,250,000 cu. ft. of space

WILLIAM B. MEYER, Inc. P. O. Box 206 Bridgeport, Cons.

Merchandise & HHG Storage

Trucking Distribution Packing Pool Car Dist. Private Siding Modern Handling Facilities





HARTFORD, CONN. U. S. CUSTOMS BONDED WAREHOUSES

HARTFORD DESPATC

410 Capitol Ave., Hartford 1, Conn.

- ★ Public Storage ★ Pool Car Distribution ★ 100% Palletized ★ ADT Protective Service ★ Prompt Delivery Via Own Fleet

DOVER, DEL. Phone: REdfield 4-3141

TWX: Dover Del. 288

F.I.D.1

DELMARVA WAREHOUSES, INC.

Columbia Ave. and Pear St.

Merchandise and Household Goods

120,000 sq. ft—15 Car Private Siding—Pool Car Distribution—Lease Rentals—Unit Handling Flathed and Vans for Local Delivery Nambor: AWA—NFWA Assat—Allied Van Lines

WASHINGTON, D. C. 1

3180 Y Street, N.E. Cable: DAVTRANSCO

TRANSFER & STORAGE CO. BANKE.



Complete Warehousing Services Moving · Packing · Storage Crating . Lift Vans . Packaging

WASHINGTON, D. C. [

Member A.W.A.

KANE WAREHOUSE COMPANY

Merchandise Storage Division 8th & Franklin Streets, N.E. 40,000 sq. ft.

Food Storage Division 4th & T Streets, N.E. 55,000 sq. ft.

8th & Franklin Streets, N. E.

ADams 2-2883
"Commercial Storage; Distribution and Delivery Service"

WASHINGTON, D. C. [

J. S. JACKSON, Mgr.

THE TERMINAL STORAGE COMPANY OF WASHINGTON

First, K and L Streets, N. E., Washington 2
Large buildings of modern construction, total floor area 184,888
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CONSIGN SHIPMENTS VIA B. 4 O. R. H.
Heated rooms for protection against freezing.

JACKSONVILLE, FLA. [

JACKSONVILLE WAREHOUSE COMPANY

511 Champion Ave., P. O. Bex 2545, Jacksonville, Fla.

General Storage—Pool Car Distribution—Lotal Cartage—Modern—Fireproof Building—87,000 Sq. Ft.—Fully Sprinklered—With Private Siding on ACL RR—Low Insurance Rate—A. D. T. Protection.

JACKSONVILLE, FLA.

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Most Centrally Located Warehouse In The City

- Reinterced concrete building with private siding on A. C. L. R. R., free switching.
 Clean, dry general storage and coeler facilities, modern againment.
 Low Contents insurance Rate. Peel car distribution and prompt local track de-



Chicago 4 20 E. Jackson Bird. WAbash 2-8567



Now York 88 W. 42nd 9t. PEnn 6-8887



JACKSONVILLE, FLA.

M&M Terminal Warehouse Co.

800 East Bay Street

Southern Terminus Willis Barge Line

Familities: 125,000 sq. ft., 40 car Private Siding SAL, 25 truck doors, Watch-man service. Deep water to 30 ft. Service Features: Mése. Storage. Poel Car Diel. Stg. in Trancit, iceal deliverice, mobile crace, 20 tess, 109%, palicitized. Member: SEWA, JWA, ADI

JACKSONVILLE, FLA.

Member: AWA-BEWAMA-JWA

PENINSULAR WAREHOUSE CO., INC.

TWX: JK-573



1507 Industrial Blvd. Established 1912 TWX: JK-5
Merchandise Storage—Pool Car Distribution—Trucking—New
Concrete Buildings—Low Insurance Rate—14 Car
Siding—15 Truck Platform—ADT Protection—
Cooler Space—Air Conditioned Office Space—
Completely Machanized — 57,000 Square Feet—
Completely Machanized — 57,000 Square Feet—
Completely Machanized — 57,000 Square Feet—
6-4457, New York phone: Murray Hill 9-7645.



JACKSONVILLE, FLA. FLORIDA'S LARGEST WAREHOUSE



Union Terminal Warehouse Company

700 East Union Street, Sta. G Merchandise Storage—Custom Bonded—Pool Car Distribution—Reconsigning—Trucking Service — Trackage 52 Cars — Reinforced Concrete — Sprinkler System — A.D.T. Service—Insurance Rate 12 Cents Rental Compartments—Sub-Postoffice Members A.W.A.—A.C.-al-W.—J.W.A.

MIAMI, FLA.

Represented by ALLIED DESTRIBUTION INC.

COLONIAL WAREHOUSE, Inc.

Division of United States Freight Co. 3675 NORTHWEST 71st STREET 100,000 sq. ft. Sp ink er-Fireproof

MERCHANDISE STORAGE & DISTRIBUTION SAL & FEC RR Siding 29 cars A.D.T. Protected. Operate modern fleet trucks & trailers.

MIAMI, FLA.

Export & Domestic Packing & Crating

INTERNATIONAL BONDED WAREHOUSE CORP.

U. S. CUSTOM BONDED

Member of American Warehousemen's Association and Southeastern Warehousemen's Association. Negotiable Warehouse Receipts

MERCHANDISE STORAGE

FEC RR SIDING-6 CARS 601-611 S.W. 8th St. (36)

Tel. FR 4-8532 & FR 4-1208

Additional copies of the February, 1960 Warehouse Directory are available by writing:

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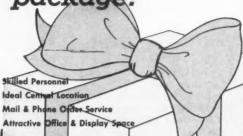
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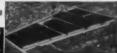
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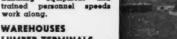
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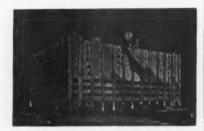
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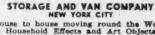
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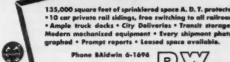


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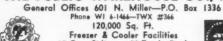




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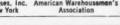
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- **Custom Bonded Space**
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 Local Truck Delivery Service **Negotiable Receipts**

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SEATTLE, WASH. (

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Seattle 4

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SPOKANE, WASH.

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TAYLOR-EDWARDS WAREHOUSE & TRANSFER CO., INC. Spokane 11

800 N. Hamilton St. WAREHOUSING

DISTRIBUTION

TRUCKING

Represented By
DISTRIBUTION SERVICE, INC.
New York—Chicago—San Francisco

New Van Line Building . . .

(Continued from Page 57)

out a section of the east brick wall. The new offices still would be readily accessible from the reception area.

Expansions

We visualized two eastward expansions of the general office in the original plans. The glass wall on the eastern side of the general office can be removed easily and the floor and ceiling continued into the new space. The effect of these moves would be to place the ma-

chine accounting department, now on the east wall, in the center of general office activity. A third expansion, this time to the north, can be accomplished in much the same manner. The mailing and store rooms would also move north and general office space would occupy these areas. All three expansions would place the employe's lounge in a central location.

The communications center and the departments adjacent to it would not be changed by any ex-

Special Shipment Vans



United Van Lines recently added more vans to its custom built fleet used for shipping exhibits and displays. The vans have been engineered to carry electronic equipment, nuclear devices, and other delicate mechanisms. One of the side doors has been widened to 6 ft making it possible to load larger shipments without dismantling

pansions, regardless of their number or direction. Similarly, the drivers' space and set-off area always would remain in their relative positions, accessible from the parking lot and ramp.

You may ask why Evansville, Ind.? Indiana was selected because of its favorable tax climate and its reciprocal licensing agreements with many other states. The selection of Evansville was made chiefly as the result of that city's proximity to the nation's population and geographical centers and to major North-South and East-West highways. The building is bounded by North-South U.S. 41 on the east and close to the proposed East-West route for Interstate 64. It is. also near Dress Memorial Airport. •

(Resume Reading on Page 57)

Long Rubber Belt



A single flight of rubber belting is part of this conveyor system in Ada, Okla., which carries 1000 tons of crushed limestone and shale an hour —a capacity equal to 20 loaded 50-ton rail cars. The belt, manufactured by B. F. Goodrich Co., forms a 12,000ft section of the permanent overland transport belt conveyor system. It moves at 500 ft per minute

New Texas Terminal



New terminal in Shreveport, La., was opened recently by East Texas Motor Freight. The \$350,000 air-conditioned structure has 28 doors and 17,800 sq ft of dock area. New terminal is connected with company's inter-terminal teletype system

CHARLESTON, W. VA. WAREHOUSING:

Is Profitable For You

TRANSIT-POOL CAR-AREA CARTAGE

Guaranty Storage

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Telephone: JAckson 5-1242

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Huntington, W. Va.

Merchandise Storage Modern, one-story Concrete and Masonry building-73,000 sq. ft. Sprinklered. Private siding 10 car cap. A modern transit storage distribution center.

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Merchandise Storage Pool Car Distribution Transit Storage Household Goods Storage Heated—Unheated—Yard

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U. S. Customs, State and Public Bonded 70 Car Track Capacity Modern Handling Equip-

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lines

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Complete local and over-the-road truck services with 70 units of all types of equipment, including low-bed trailers, winches and cranes.

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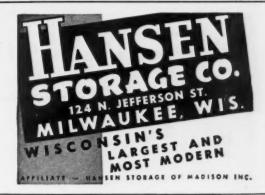
MILWAUKEE, WIS. [

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2/16 Berkeley St.

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Private Siding. Efficient Loading Facilities
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Members of Canadian Warehousemen's Association.
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200,000 50 FT. OF MODERN FIREPROOF SPACE LOCATED
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Camadian Customs Bonded. Private Siding — 8 Cor
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Chicago, Illinois	LA 3-7440
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Denver, Colorado	DU 8-4567
Detroit, Michigan	VI 3-9505
Evansville, Indiana	HA 3-6487
Kansas City, Missouri	HU 3-9343
Los Angeles, California	AN 8-8211
Louisville, Kentucky	ME 6-1361
Nashville, Tennessee	CH 2-5284
New York, New York	LO 4-3320
(North Bergen, N.J.	UN 3-0900)
Owensboro, Kentucky	MU 3-5363
Phoenix, Arizona	AL 8-5321
Pueblo, Colorado	LI 3-4425
St. Louis, Missouri	CH 1-7830
Seattle, Washington	MA 4-3850
Syracuse, New York	HA 2-5177

OFFLINE SALES OFFICES

Boston, Massachusetts	NO 7-3401R (Norwood, Mass.)
Cincinnati, Ohio	HU 1-8165
Dayton, Ohio	BA 2-5082
Milwaukee, Wisconsin	DI 2-4110
New York, New York	WI 7-6968
Philadelphia, Pa.	LO 4-1360 (Springfield, Pa.)
Portland, Oregon	CA 2-4500
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San Francisco, Calif.	UN 1-4331
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VALUE PLUS—Automatic's simplified power package offers the ultimate in high operating efficiency, low cost of operation, and maximum safety. A gas engine and variable voltage generator, precisely matched, supply exact power to the electric drive motor...no clutch or hydraulic torque converter to cause trouble or worries. Here are a few of Automatic's plus value features:

- Deperates on 25 to 30% less fuel
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MODERN STYLING—New orange and blue color combination. Automatic's

new special high visibility safety orange adds another safety plus feature to your plant, while its new royal blue color accentuates the truck's

centuates the truck's low center of gravity and high stability.

THE PRICE IS RIGHT—No longer a premium-priced truck, but priced competitively with trucks which use hydraulic torque converters.



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FIRST WITH REALITY



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